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ABSTRACT

This amicus curiae was filed by the Educational Testing Service (ETS) in the case of the United States of America and North Carolina Association of Educators v. North Carolina, which involved the validity of North Carolina's use of the National Teacher Examinations (NTE). The NTE, a battery of achievement tests designed to measure the academic preparation of students completing a teacher preparation program, is produced and administered by ETS. The issues before the court involved North Carolina's use of a cut-off score of 950 on the NTE to determine salary, retention, and tenure of teachers with substantial in-service experience, and to determine the certification of prospective teachers with no experience. It was charged that the NTE is biased against minority candidates, and the test's validity is limited. This brief argues that the NTE is carefully prepared to assess the academic preparation of prospective beginning teachers; that there are limited issues presented by the plaintiffs which should be decided; and that the ancillary issues raised by the plaintiffs concerning bias and validity of the NTE need not be decided by the court. The brief suggests that the court grant relief eliminating both the non-standard rating for experienced teachers and the cutting score of 950 for prospective teachers. (Author/JAC)

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IN THE

United States District Court

FOR THE EASTERN DISTRICT OF NORTH CAROLINA
Raleigh Division

UNITED STATES OF AMERICA,
Plaintiff,

and

NORTH CAROLINA ASSOCIATION OF EDUCATORS, *et al.*,
Plaintiff-Intervenors,

v.

STATE OF NORTH CAROLINA, *et al.*,
Defendants.

BRIEF AMICUS CURIAE FOR EDUCATIONAL TESTING SERVICE

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England v. *Louisiana Board of Medical Examiners*, 246 F. Supp. 993 (E.D. La.), *aff'd*, 384 U.S. 885 (1966) 35
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Milner v. *Burson*, 320 F. Supp. 706 (N.D. Ga. 1970) 35
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Schware v. *Board of Bar Examiners of New Mexico*, 353 U.S. 232 (1957) 36
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United States v. *Chesterfield County School District*, 484 F.2d 70 (4th Cir. 1973) 28
United States v. *City of Chicago*, 385 F. Supp. 543 (N.D. Ill. 1974) 21
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Educational Testing Service, GUIDELINES FOR USING THE NATIONAL TEACHER EXAMINATIONS (1974) (Ex. DM3) 8, 11, 22, 23, 41, 42, 45
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Educational Testing Service, THE EXAMINATION IN BIOLOGY AND GENERAL SCIENCE (1970) (Ex. DM4C) 13
Educational Testing Service, THE EXAMINATION IN ENGLISH LANGUAGE AND LITERATURE (1975) 7
Humphry, *A Survey of Professional Education Offerings in NCATE-Accredited Institutions*, 1963 JOURNAL OF TEACHER EDUCATION 406 13
Manual for Item Writers for NTE Professional Education Tests (Ex. NEADX10-confidential) 15
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T. Quirk, MANUAL FOR DESIGNING AND CONDUCTING VALIDITY STUDIES BASED ON THE NATIONAL TEACHER EXAMINATIONS (1972) (Ex. GM16) 45, 46
S. Sherwin, TEACHER EDUCATION: A STATUS REPORT (1974) (Ex. DDX4) 13
Teacher Programs Advisory Board document (Ex. NEADX 19) 11, 48

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OTHER REFERENCES:

American Psychological Association, STANDARDS FOR EDUCATION AND PSYCHOLOGICAL TESTS (1974) (Ex. GK3) 23, 37, 38
J. Burch, *et al.*, OUTSTANDING TEACHERS IN NORTH CAROLINA: PRINCIPALS' RATINGS AND NTE SCORES (1970) (Ex. NEAX46) 27, 31, 49, 50
M. Haberman and T. Stinnett, TEACHER EDUCATION AND THE PROFESSION OF TEACHING (1973) 6
J. Hall, NATIONAL TEACHER EXAMINATIONS AND SELECTED CRITERIA OF TEACHER EFFECTIVENESS (1969) (IUS No. 24) 27, 49
J. LEWIS, THE RELATIONSHIP BETWEEN PERFORMANCE ON THE NATIONAL TEACHER EXAMINATION AND SUCCESS IN STUDENT TEACHING (1967) (NEAX12) 48, 49
Mahaffey, *Student Teaching Grades: Assessment and Use*, SCHOOL AND SOCIETY 5 (October 1974) 46
Memorandum from Ad Hoc Committee to State Board Members (1972) (Ex. NEADX40) 27
National Education Association, A MANUAL ON STANDARDS AFFECTING SCHOOL PERSONNEL IN THE UNITED STATES 5, 25, 33
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[illegible], *Section 1981 and Private Discrimination*, 40 GEO. WASH. L. REV. 1024 (1972) 21
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D. Ryans, CHARACTERISTICS OF TEACHERS (1960) 39
State Board of Education, Policy Statement (1969) (Ex. NEAX30) 20, 22
State Board of Education, REPORT OF THE TEACHER EVALUATION RATING AND CERTIFICATION COMMITTEE (1961) (Ex. PX21) 26, 31

IN THE

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Raleigh Division

UNITED STATES OF AMERICA,
Plaintiff,

and

NORTH CAROLINA ASSOCIATION OF EDUCATORS, *et al.*,
Plaintiff-Intervenors,

v.

STATE OF NORTH CAROLINA, *et al.*,
Defendants.

BRIEF AMICUS CURIAE FOR EDUCATIONAL TESTING SERVICE

Introduction

This case involves the validity of specified uses by North Carolina of the National Teacher Examinations, a standardized testing program that is produced and administered by the Educational Testing Service, a non-profit corporation located in Princeton, New Jersey. The Educational Testing Service is committed to preventing the misuse of its test programs and to fostering their proper uses. Although the facts do not so require, proper as well as improper uses of the National Teacher Examinations have been placed in issue by the plaintiff in this case. This brief amicus curiae is designed to assist the Court in distinguishing among the various uses of the National Teacher Examinations and the different legal standards that apply to such diverse uses. All parties have consented to the filing of this brief.

Statement of the Case

Plaintiff and plaintiff-intervenors challenge the legality of Section 115-153 of the North Carolina General Statutes under Title VII

of the Civil Rights Act of 1964, 42 U.S.C. § 2000e *et seq.*, and 42 U.S.C. §§ 1981, 1983; and also challenge the statute's constitutionality under the Fourteenth Amendment. As enforced by defendants, the statute requires persons seeking certification as teachers in North Carolina to achieve a minimum score of 950 points on the National Teacher Examinations (hereinafter "NTE").

The record establishes, and the parties do not dispute, that North Carolina uses the NTE with the cut-off score of 950 to determine the salary, retention and tenure of teachers with substantial in-service experience and to determine the certification of prospective teachers with no experience. Similarly, it is uncontroverted that this required minimum score disqualifies proportionately more black persons than white persons from being certified as teachers in North Carolina. The issue before this Court is whether these specific uses of the NTE by North Carolina are permissible in light of statistical evidence of disparate performance by race on the Examinations.

Interest of Amicus Curiae

The Educational Testing Service (hereinafter "ETS") was chartered in 1947, under the Education Law of the State of New York, as a private, non-profit educational corporation.[1] ETS was organized by three major educational organizations then actively involved in testing, the American Council on Education, the College Entrance Examination Board, and the Carnegie Foundation for the Advancement of Teaching. These organizations combined their then existing testing functions to provide a unified, efficient organization geared to meeting the increasing measurement needs in various fields of education.

ETS' current program reflects both its initial charter and the substantial growth in the testing and measurement fields over the intervening decades. The primary activity remains the development and administration of a large number of different tests. In the educational field, these tests cover a wide variety of academic programs for pre-school, elementary, secondary, college, and graduate

[1] The principal offices of ETS are located in Princeton, New Jersey and it maintains regional offices in Atlanta, Georgia; Berkeley, California; Los Angeles, California; Evanston, Illinois; Austin, Texas; San Juan, Puerto Rico; and Washington, D.C.

levels.[2] In the certification and licensing field, ETS has developed 29 different standardized examinations for professional and other occupational fields.[3] The National Teacher Examinations program is one of these certification and licensing examinations. ETS also develops specially-designed criterion-referenced tests for use by industrial employers in selecting particular types or categories of employees from among available applicants.[4]

As a major producer of tests that are administered nationwide to large numbers of candidates, ETS recognizes its responsibilities to guide test users in the proper uses of its tests. ETS publishes manuals, guidelines, research studies and other materials that describe the design and purpose of the tests and that point out uses considered by ETS to be "misuses" of the tests. ETS has established a policy with respect to misuses of the National Teacher Examinations that come to its attention, and this policy is published and widely circulated to users. Under this policy, ETS will inquire into any reported misuse. If a misuse is established, ETS will first attempt to correct the misuse through informal meetings with the user. However, if informal means fail, ETS has undertaken to cease reporting scores to the agency or institution that

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[2] For example, ETS developed and administers the CIRCUS tests for nursery school students, the Cooperative Testing Program for elementary and secondary school students, the College Board Admissions Tests and the College Board Advanced Placement Tests for high school graduates and college students; and the Graduate Record Examinations, Law School Admissions Test, and Admission Test for Graduate Study in Business, for prospective graduate students.

[3] These professional fields include actuarial work, architecture, engineering, law, nursing, obstetrics, opthalmology, podiatry, radiology, respiratory therapy, social work and teaching.

The other occupational fields include automobile repair, laboratory technology, banking, firefighting, police work, foreign service, hospital financial management, merchant marine officer's work, insurance, furniture warehousing, stock brokerage, electrical contracting, optical work, golf, and real estate sales and brokerage.

[4] As an outgrowth of its primary focus on test development, ETS has assembled a large research staff and conducts an extensive on-going research program in the testing and measurement field. Current research includes exploring the beginning of cognitive development in infants, studying various types of teacher behavior, examining various components of personality and the way personality is manifested in social behavior, assessing the difference between intelligence and creativity in children, and studying risk taking and decision making.

In another direction, ETS also offers advisory and instructional programs for educators, test users and the general public.

sponsors the misuse in order that the misuse will cease to have any adverse effect on candidates.

The interest of Educational Testing Service as an amicus curiae in this case is straightforward. The plaintiff and plaintiff-intervenors have attacked the use of the National Teacher Examinations that are developed, administered and scored by ETS. Much of the discovery in this case involved ETS documents and witnesses. The briefs of plaintiff and plaintiff-intervenors discuss and advance arguments regarding ETS activities, the specific uses of the NTE by North Carolina that are at issue, and more far-reaching questions regarding the fundamental validity of the Examinations.

Consistently with its preexisting policy, ETS regards as misuses the specific uses that North Carolina authorities have made of the NTE with a cutoff score of 950 to determine the salary, retention and tenure of teachers with substantial in-service experience, and to certify prospective teachers without proper validation. ETS took steps prior to the institution of this litigation to persuade the North Carolina authorities to correct the misuses of the Examinations. These efforts were unsuccessful and, accordingly, ETS maintains that these specific uses of the NTE should be adjudged illegal on the grounds advanced in this brief.

Of even greater importance to ETS, however, is the fact that the plaintiff, although not the plaintiff-intervenors, has apparently expanded its challenge far beyond the current misuses of the NTE by North Carolina. The plaintiff has attacked the underlying validity of the Examinations themselves even when used for purposes designated by ETS as appropriate. In addition to charging that the NTE are biased against minority group candidates, the plaintiff has suggested that the Examinations can be validated only under certain narrowly conceived procedures and circumstances.

In this brief amicus curiae, ETS will describe the NTE and the process by which they are developed, survey the limited ground on which the issues in this case should be decided, and finally rebut plaintiff's assertions that the Examinations are racially biased and have not been validated under applicable standards for use in certifying prospective teachers with no actual teaching experience.

I. THE NATIONAL TEACHER EXAMINATIONS ARE CAREFULLY AND PROFESSIONALLY PREPARED FOR THE PURPOSE OF ASSESSING THE ACADEMIC PREPARATION OF PROSPECTIVE TEACHERS WITH NO PROFESSIONAL EXPERIENCE

The National Teacher Examinations are a battery of achievement tests designed to measure the academic preparation of college seniors completing a four-year program in teacher education.[5] The tests are prepared for a limited well-defined purpose—to measure the preparation of such prospective teachers against a national norm. They are prepared through a process that utilizes independent experts in conjunction with the research resources and resident experts of the Educational Testing Service. This test development process is carefully structured to insure that the tests accurately measure the subject matter covered and are free of any racial or cultural bias. Under constant evolution during the past 35 years, the tests are widely used by certifying authorities and schools searching for a fair and objective measure of a prospective teacher's academic training.

A. Description of the National Teacher Examinations

Every state certifies or licenses teachers who teach in public school systems.[6] In so doing, every state specifies a minimum level of academic preparation; no one can teach in a public school system who has not earned at least a bachelor's degree.[7] By imposing this requirement, every state has made the fundamental judgment that the knowledge to be gained through academic preparation is not just useful, but essential to good teaching.

As teacher training institutions proliferated in the United States, a substantial problem developed regarding the comparison of credentials awarded by different institutions. In 1974, there were 1,265 teacher training facilities in the United States[8] and

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[5] Educational Testing Service, NATIONAL TEACHER EXAMINATIONS, TECHNICAL HANDBOOK 8 (1973) (Ex. DM1) (hereinafter "TECHNICAL HANDBOOK").

[6] *See* National Education Association, A MANUAL ON STANDARDS AFFECTING SCHOOL PERSONNEL IN THE UNITED STATES 3 (1974) (hereinafter "NEA MANUAL").

[7] *Id.* at 2.

[8] *Id.* at 1.

they are thought to vary greatly in quality.[9] This inevitable disparity creates a significant problem for state authorities seeking to evaluate the credentials of applicants from widely diverse institutions.

In response to the concern of a number of school superintendents, the National Teacher Examinations were first developed in 1940 by the American Council on Education in order to provide a standardized set of tests of high quality that could be used by educators to assess the quality of undergraduate teacher training.[10] These Examinations had a single purpose: to measure the academic preparation of prospective teachers against national norms that reflected the basic elements of teacher training programs actually being taught across the country. The responsibility for developing, administering and scoring the NTE was transferred to ETS in 1949.[11]

The current Examinations have two principal components: the Common Examinations that test elements of teacher training common to all fields, and the twenty-eight Area Examinations that test knowledge specifically relevant to one area of specialization.[12]

The Common Examinations are subdivided into two separate batteries of tests. The test in Professional Education measures an individual's level of academic training in psychological foundations of education, societal foundations of education, and methods, principles and practices of teaching.[13] The tests in General Education, the second component of the Common Examinations, assess a prospective teacher's academic training in written English expression; social studies, literature and the fine arts; and science and mathematics.[14] These are subjects that are included in most teacher

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[9] M. Haberman and T. Stinnett, TEACHER EDUCATION AND THE PROFESSION OF TEACHING 172 (1973) (hereinafter "TEACHER EDUCATION").

[10] Deposition of Dr. Richard M. Majetic, Program Director, National Teacher Examinations, ETS, taken by defendants on July 10 and 11, 1974 (hereinafter "Majetic Deposition") at 11, 58-59.

[11] TECHNICAL HANDBOOK at 8 (Ex. DM1).

[12] This division reflects the basic organization of teacher training programs throughout the country into three similar components: professional education, general education and professional specialty. *See generally* TEACHER EDUCATION at 85.

[13] Majetic Deposition at 62-63.

[14] *Id.* at 64.

training programs and that provide useful background in any teaching field.[15]

The Area Examinations measure a prospective teacher's level of academic preparation in his area of specialization.[16] There are currently 28 such examinations offered by ETS in elementary education fields such as early childhood education and teaching of reading; in secondary education specialties such as chemistry, biology, mathematics, and language; and in school personnel specialties such as guidance counseling, and educational administration and supervision.[17]

Since their inception the NTE have been updated, expanded, studied and widely utilized.[18] Since 1940, the NTE have been given every year at least once, and in recent years, four times a year at 450 testing sites throughout the nation.[19] Since 1959 when the Examinations were first administered in North Carolina, 20 new forms of the Common Examinations have been prepared. The 11 Area Examinations offered in 1959 each have been revised approximately four times and 17 new Area Examinations have been added since that time. This revision of the NTE is a virtually continuous process in order to produce tests that measure mastery of the subject matter that is currently being taught in teacher training institutions around the country.

B. The Examinations Are Prepared for a Specific, Well-Defined Purpose

Throughout this history of increasing use and responsive evolution, the Examinations have remained constant to the single pur-

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[15] *Id.* at 64-65.

[16] *Id.* at 65.

[17] The 28 Area Examinations are: Art Education; Audiology; Biology and General Science; Business Education; Chemistry, Physics and General Science; Early Childhood Education; Educational Administration and Supervision; Education in the Elementary School; Education of the Mentally Retarded; Education in an Urban Setting; English Language and Literature; French; German; Guidance Counselor; Home Economics Education; Industrial Arts Education; Introduction to the Teaching of Reading; Mathematics; Media Specialist—Library and Audio-Visual Services; Men's Physical Education; Music Education; Reading Specialist; Social Studies; Spanish; Speech-Communication and Theatre; Speech Pathology; Texas Government; and Women's Physical Education. Educational Testing Service, THE EXAMINATION IN ENGLISH LANGUAGE AND LITERATURE 2 (1975).

[18] Approximately 100,000 candidates took either the Common Examinations or one of the Area Examinations last year. Majetic Deposition at 136-37.

[19] *Id.* at 66.

pose for which they were created.[20] Three essential components of this underlying purpose deserve to be emphasized in view of the issues raised in this case.

First, the NTE are designed to measure academic preparation only. No one denies that there are other qualities that are essential to good teaching,[21] including the ability to motivate students, ability to maintain discipline, ability to communicate with parents, and administrative skill. It is equally clear that the importance of these qualities may vary from one teaching assignment to another,[22] depending on such factors as school location, class size and student ability. But a specific level of academic preparation is required by all states for all public school teaching jobs as a separate and independent qualification. It is to that single qualification that the National Teacher Examinations are directed, and it is only to the extent that other abilities and qualities are taught or developed in academic programs that they come within the purpose of the Examinations.

Second, the NTE measure the academic preparation of prospective teachers only.[23] This generally means college seniors entering their first teaching assignments, although some candidates with more than four years of academic preparation are also prospective teachers entering their first teaching assignments. The Examinations are designed to give a measure of academic preparaiton where no practical on-the-job measure is available. Plainly, the ultimate measure of academic preparation is how well a teacher is able to practice what is taught in teacher education programs. The NTE are not designed for such "in-service" assessments.[24] They are specifically designed for use where the prospective teacher

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[20] *See* TECHNICAL HANDBOOK at 8 (Ex. DM1); and Educational Testing Service, GUIDELINES FOR USING THE NATIONAL TEACHER EXAMINATIONS 5-6 (1974) (Ex. DM3) (hereinafter "ETS GUIDELINES").

[21] Majetic Deposition at 153-57.

[22] *Id.* at 158.

[23] Educational Testing Service, BULLETIN OF INFORMATION FOR CANDIDATES 19-20 (1973-74) (Ex. DM2).

[24] It should be noted that the on-the-job assessment measures a number of things other than academic preparation. A teacher may be fully informed as to the principles to be applied, and thus have good academic preparation, but be more or less able to apply them, thus obtaining a varying score in an on-the-job assessment.

has not had a teaching job and an alternative assessment of academic preparation is useful.[25]

Third, the NTE utilize a national norm.[26] The tests are not designed to reflect all academic courses offered by every teacher training institution throughout the country. Nor are the NTE designed to provide a measure of the best teacher training offered by an institution, even assuming that any two educators could agree on such a judgment. Instead, the Examinations seek to include a representative sample of the academic subject matter that is actually and currently being taught by a large number of teacher training institutions across the country.[27] Essential parts of this third goal are standardization and security. The tests must be standardized so that valid comparison of results from year to year can be made. The tests must be secure so that no candidate knows what the questions will be and no part of the results reflect an advantage in preparation for specific questions.[28]

C. The Examinations Are Carefully and Professionally Prepared By Highly Qualified Experts

A standard method is utilized in preparing each test that is part of the NTE. Independent experts are retained by ETS for the sole purpose of preparing the test. Experts employed by ETS provide the independent experts with staff support and coordination. The qualifications of these experts and the process used by them to develop the Examinations are described below.

1. *The Independent Experts*

The National Teacher Examinations are prepared by independent experts with the aid of staff support provided by ETS.[29] When a new examination is to be prepared, ETS requests nominations to committees from professional societies and groups active

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[25] The NTE may also be useful where a prospective teacher's on-the-job experience has been very limited, for example, lasting only a few weeks, so that no in-service assessment is possible, or where a teacher with limited experience comes from out-of-state so that no local assessment is possible.

[26] Majetic Deposition at 77-78.

[27] *Id.* at 62-66.

[28] *Id.* at 69-70.

[29] *Id.* at 14.

in the specific teaching field to be covered.[30] Nominations may also be received from individual educators and from test development experts on the ETS staff. From these nominations, four to eight persons are selected for membership on a Committee of Examiners.

Each Committee of Examiners for an Area Examination contains experts who have taught or planned the teaching of the specific subject matter in teacher training institutions, experts who are teachers actively teaching or supervising the teaching of the specific subject matter to students at elementary or secondary levels, experts who have written or studied in the subject matter field, and experts working on curriculum planning at the state or national level. The Examiners are also selected on the basis of geographical location so that all of the major regions of the nation are represented.[31]

The Area Examinations in Elementary Education, English Language and Literature, and Social Studies were identified by plaintiff-intervenors as having the largest number of scores reported each year for candidates in North Carolina.[32] These Examinations were last rewritten in 1974. The members of the Committees of Examiners for these examinations were particularly distinguished professional educators, whose full academic and professional credentials, as described in standard reference sources, are set out in Appendix A. The Elementary Education Committee included a county supervisor for elementary education who has broad responsibility for curriculum planning in a large school system, and four university faculty members with extensive teaching experience in elementary schools, two of whom have written extensively in the field of elementary education. The English Language and Literature Committee members included an accomplished English teacher from a large public school system, a specialist at the university level in training English teachers, two authors who are also faculty members of established English Departments, and a third university faculty member with long experience in teaching teachers. The Social Studies Committee included a college teacher who has substantial experience in teaching social studies at the secondary level, the author of two

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[30] Majetic Deposition at 12-13. For example, if the teaching field to be covered were biology, the relevant groups would be the National Association of Biology Teachers, Inc., and the National Science Teachers Association of America.

[31] *Id.* at 12.

[32] Plaintiff-Intervenors' Proposed Findings of Fact and Legal Argument at 20.

important works on teaching social studies, an economist and an historian. Each of these Committees had minority group representation among its members.

The Teacher Programs Advisory Board[33] reviews policy matters with respect to all teacher examination programs at ETS. As part of its functions, the Advisory Board reviews the development and revision of the Common Examinations.[34] The Advisory Board, which meets annually at Princeton for two days, is comprised of 17 members who represent a variety of professional views on teacher training and who are drawn from all regions of the country.[35] The Board includes nine members who are faculty members at prominent teacher training institutions; three members who are state officials responsible for certification of teachers and supervision of teacher training programs; one member who is a school district officer responsible for teacher selection policies and teacher supervision; three members who are senior officials of large organizations of teachers; and one member who is a senior officer of a leading association of teacher colleges. A complete listing of the 1974 Advisory Board members and a summary of their qualifications are set out in Appendix B.

The experts who participate in the development of the National Teacher Examinations are given a modest honorarium for their services, in addition to reimbursement for their travel expenses incurred in connection with their work and lodgings and meals during their initial group sessions in Princeton. None of these experts is employed by ETS in any other capacity.[36]

2. *The ETS Staff Experts*

The ETS staff members who work with the National Teacher Examinations are located in four groups within the Higher Education and Career Programs Division:[37] (1) the test development group that has responsibility for staff support for the Committees

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[33] The predecessor to this Board was the National Teacher Examinations Advisory Board which performed the same functions.

[34] TECHNICAL HANDBOOK at 8 (Ex. DM1); Teacher Programs Advisory Board document 2 (Ex. NEADX19).

[35] ETS GUIDELINES at 21 (Ex. DM3).

[36] Occasionally an expert who participates in the creation of one of the Area Examinations will also be consulted by ETS with respect to the construction of part of another test, such as the Graduate Record Examinations, that also tests knowledge of the subject matter area.

[37] *See generally* Majetic Deposition at 314-17.

of Examiners, research on the content of teacher education programs across the country, and analysis of the statistical results obtained from specific test questions; (2) the test program group that has responsibility for actual administration of the tests such as selecting test centers, collecting the test results, liaison with state and local users of the test, and preparation and distribution of descriptive literature about the test; (3) the computer systems group that has responsibility for scoring the tests and producing statistical summaries of the test results; and (4) the statistical group that designs and reviews statistical procedures and research related to test results.

The test development group performs the functions relevant to the issue of the validity of the NTE as a criterion for teacher certification.[38] There are five Senior Examiners in that group who have primary responsibilities for various aspects of the NTE. Each is a qualified expert in testing and measurement, with long experience in test development, and each is a specialist in one or more of the subjects and fields that are tested by the NTE.[39] Their qualifications are set out in Appendix C hereto.

3. *The Test Development Process*

A five-stage test development process is used to write every test included in the National Teacher Examinations.

Step 1 is the creation of the test matrix, or plan, that describes the domain to be tested and serves as a specification for the mix of questions to be used.[40] This step begins with the initial meetings of the Committee of Examiners at the ETS facility in Princeton.[41] At these meetings, the experts discuss their observations and sources of information with respect to how the subject matter is currently being taught at teacher training institutions around

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[38] Majetic Deposition at 312-13. The statistical group has some functions that relate directly to validity, which are discussed *infra* at p. 16. The test program group and the computer systems group have no functions that relate to the validity of the NTE.

The defendants in this action deposed two persons from the test program group: Dr. James Deneen, Director of Teacher Programs and Services; and Dr. Richard Majetic, Program Director, National Teacher Examinations.

[39] The Senior Examiners are assisted by one Examiner and five Associate Examiners who are also specialists in the subject matter fields measured by the NTE program.

[40] Majetic Deposition at 13, 147.

[41] *Id.* at 13.

the country.[42] If the test to be prepared is an Area Examination, for example, in biology, the experts discuss the latest texts and curriculum used to prepare biology teachers. They discuss the structure of the courses in various colleges and universities and the needs that practicing teachers currently have in teaching biology in elementary and secondary schools. They discuss what specific subject matter fields should be stressed because new developments have opened new areas of study, such as subcellular biology, and what fields should be reduced in emphasis because they are no longer as important as they might once have been.[43]

The Committee of Examiners then creates the first part of the matrix, which is the listing of the subfields to be tested within the main subject matter field of biology. Typically there are five to ten such subfields, and in biology these currently are: subcellular and cellular biology, heredity, evolution, ecology, populations, chemistry, physics, and earth sciences.[44]

The Committee then turns to the discussion of the kinds of knowledge, skills and abilities to be measured within each subfield, which constitutes the second part of the matrix. They want to measure knowledge of specific facts, concepts and principles within the subfields, as well as the ability to apply the knowledge to specific situations.[45] Each of these aspects is important

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[42] TECHNICAL HANDBOOK at 12 (Ex. DM1).

[43] *Id.* at 12. *See e.g.*, the report of this type of discussion in Memorandum, NTE Social Studies Committee of Examiners Meeting 1-3 (1974) (Ex. NEAM4-confidential).

ETS staff members conduct extensive research projects that analyze current course requirements for various teaching specialties drawn from the catalogs of accredited teacher training institutions. They also analyze changes in text or emphasis in textbooks both for students in elementary or secondary schools and students in teacher training institutions. A study undertaken by Betty J. Humphry, a Senior Examiner in the NTE Program, established that teacher training institutions are in substantial agreement over the content of professional education course requirements. Humphry, *A Survey of Professional Education Offerings in NCATE-Accredited Institutions*, 1963 JOURNAL OF TEACHER EDUCATION 406, 409. This curriculum study was updated and expanded in 1974 by a study that demonstrated that course offerings in professional and general education have remained relatively constant over the years. S. Sherwin, TEACHER EDUCATION: A STATUS REPORT (1974) (Ex. DDX4).

[44] Educational Testing Service, THE EXAMINATION IN BIOLOGY AND GENERAL SCIENCE 3 (1970) (Ex. DM4C).

[45] *See e.g.* Memorandum, NTE Social Studies Committee of Examiners Meeting at 2-3 (1974) (Ex. NEAM4-confidential). *See also* Content Outlines for the Professional Education Portion of the Common Examinations (1971) (Ex. NEADX6-confidential).

in measuring the academic preparation of a prospective teacher of biology.

Each of these subfields of knowledge and academic skills may have a different degree of importance, so the Committee must decide how heavily each of these skills will be emphasized and the number of questions required to reflect that relative emphasis. For example, having decided that knowledge of heredity should be measured, a decision may be made to devote 10% of the questions in the examination to heredity and 30% of the heredity questions to Mendelian probabilities.

The Committee then addresses the difficulty of the questions to be required in each subset within each subfield.[46] The goal for each part of the examination is to achieve a level of moderate difficulty that emphasizes neither extraordinarily difficult nor very easy questions.

The work on the matrix for the examination is completed during the meetings of the Committee at Princeton.

Step 2 is the writing of actual test questions, and this begins as soon as the matrix is ready.[47] The Committee members write some questions themselves. Typically each member will write 20 questions in his specialty area. Some of the questions are taken from previous examinations. ETS staff members suggest questions from previous examinations that might be suitable for particular parts of the current matrix. The Committee members review these questions and select those that are appropriate. At least 20% of the questions on any examination are taken verbatim from questions on a previous examination to establish the necessary comparability from one test to another.[48]

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[46] TECHNICAL HANDBOOK at 12-13 (Ex. DM1).

[47] Majetic Deposition at 148.

[48] *Id.* An established procedure is followed to insure that different forms of the same test are comparable, *i.e.*, the forms represent the same level of difficulty. A designated number of questions are selected from an old form in a manner that reflects statistically the composition of the test from which these questions were taken. The designated questions are then embedded throughout the new form in approximately the same position that they occupied in the old form. When the new form is administered, performance data on the designated questions are computed and compared with similar performance data on these questions on the old form. Based on an analysis of the common questions, scores obtained on the new form can then be adjusted in a manner that reflects the level of difficulty of the new form.

A large proportion of the questions, typically 40-60%, are written by other independent experts. The professional societies, Committee members and ETS staff members suggest the names of persons to write specific types of questions within the areas provided for by the test matrix.[49] From a composite list of nominations, the Committee members make specific recommendations for the selection of question writers, and ETS staff members perform the necessary liaison functions between the Committee and approximately 10 additional independent experts who are selected as question writers.[50] Each new question writer is asked to submit 10 to 20 questions in a particular subfield and within question subsets specified in the matrix. The goal is to produce approximately 1½ times as many questions as will be required for the final version of the examination. This provides the necessary leeway for questions that do not work out and must be discarded. All questions are in multiple choice form and all question writers are instructed to provide the same number of alternative answers. The experts are also given the matrix specifications with respect to the level of difficulty of the questions to be written as well as the subfields of knowledge and skills to be tested.[51] The question-writing process typically requires about three to four months.

Step 3 gets underway as soon as all of the questions are received.[52] ETS staff personnel review the questions for form and adherence to accepted principles of test construction. Each question is matched with the specific section of the matrix it was designed to fill and is analyzed to determine that it meets the specifications. A draft examination is prepared and sent to the Committee of Examiners for review. Each expert answers each question in the manner he believes to be correct, and mails his set of answers back to ETS. The experts are also asked to rate the level of difficulty of each individual question. The answers received from the ex-

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[49] Majetic Deposition at 14-15, 148.

[50] Question writers are compensated on a fixed fee per question basis for drafting questions and on a per diem basis for review of questions written by other question writers.

[51] *E.g.* Manual for Item Writers for NTE Professional Education Tests (Ex. NEADX10-confidential); Multiple Choice Question Terminology (1967) (Ex. NEADX9-confidential). Questions for the Common Examinations and the Area Examinations have five alternative answers, one correct and four incorrect, except for examinations in language area specialties, which have four answers, one correct and three incorrect.

[52] Majetic Deposition at 13.

perts are compared by ETS staff personnel, and questions on which experts disagree are revised or discarded. In this way, ambiguous questions are repaired or eliminated. This process generally results in the elimination of about 30% of the prospective questions and takes from four to eight weeks.

Step 4 is the assembly of the actual test.[53] ETS staff members follow standard procedures with respect to adherence to the matrix of content and difficulty levels of the questions and the test as a whole. Attention is also given to the ordering of the questions, the directions for answering the questions and certain editorial practices. A second draft test is assembled for approval by the Committee members. Once approved, the test is printed and scheduled for the next administration. It is administered at all test centers throughout the country and the results are sent to the statisticians for analysis.

Step 5 is the statistical analysis of each test and of each test question that is performed after an examination has been administered.[54] A test analysis is conducted which provides information on test reliability, test difficulty, speededness, score frequencies, and other data that are published in the TECHNICAL HANDBOOK (Ex. DM1).

D. The Test Development Process Incorporates Effective Safeguards Against Racial or Cultural Bias

The tests are carefully and systematically reviewed to eliminate material that might be biased against minority group students. There are no questions that contain material that is offensive to any minority group or cultural group in its wording. There are no questions that are systematically answered incorrectly by minority group persons by virtue of culture-specific usage, that is, where the words used commonly have different meanings for whites and blacks.

In this area, the NTE are prepared with a view to doing more than simply eliminating the negative. Questions on the tests include positive references and requirements with respect to knowledge and application of knowledge that are identified with minority

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[53] *Id.*

[54] TECHNICAL HANDBOOK at 13-15 (Ex. DM1).

groups. Some of the social studies questions deal with social issues of particular concern to blacks[55] and the struggle to overcome these social problems.[56] Some of the questions that test correctness of written English expression use material that recognize minority group contributions[57] or particularly relevant social problems.[58] The literature and fine arts test includes questions that require knowledge of the identity and works of black musicians,[59] authors,[60] playwrights,[61] and political leaders.[62]

In 1969, ETS convened a special Minority Advisory Committee to review the Common Examinations and several of the Area Examinations and to make recommendations for both elimination of current material and inclusion of other racially-positive material.[63] Each of the members of that Committee was a distinguished minority educator. Their qualifications, as described in standard reference works, are set out in Appendix D. The Committee met for two days and discussed the impact of the Common Examinations on minority persons. Subcommittees were organized for specific areas to review the content of the tests. Their review was thorough. The Committee made a number of general recommendations that were implemented by ETS.[64]

Since 1969, ETS has sought to obtain minority group representation in a systematic fashion on each of the Committees of Examiners that prepare the specifications for tests, and on each of the groups of question writers that contribute to the construction

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[55] *See* Educational Testing Service, National Teacher Examinations, Common Examinations, Form K-UNT 2, Questions 166, 167 (Ex. DM9-confidential). This exhibit is a copy of one form of the Common Examinations.

[56] *Id.*, Question 170.

[57] *Id.*, Question 114.

[58] *Id.*, Questions 122, 134.

[59] *Id.*, Questions 197, 205.

[60] *Id.*, Questions 143, 150, 199.

[61] *Id.*, Question 212.

[62] *Id.*, Question 215.

[63] Deposition of James R. Deneen, Director of Teacher Programs and Services, ETS, taken by defendants on July 29, September 16-18, 1974 (hereinafter "Deneen Deposition") at 248-255.

[64] Majetic Deposition at 80-81, 84-85.

of the tests.[65] That effort has been successful. In addition, the Teacher Programs Advisory Board, which reviews all teacher testing programs, includes six minority group members—four blacks, a Puerto Rican and a Mexican American.[66]

Some of the experts who prepare the tests and the questions are persons who, although not members of minority groups themselves, have had extensive experience in teaching minority group persons in their classes.[67] These experts are particularly sensitive to language usage and other question construction problems that might cause differential results between minority and majority group persons who have the same level of knowledge or understanding.

E. The Test Development Process Is Fairly Designed to Achieve the Essential Objective of the NTE

As summarized above, the process by which the NTE are developed is characterized by careful design and expertise. This process has been refined over the years to incorporate all possible assurances that the NTE are a fair and reliable measure of the academic preparation of prospective teachers.

In assessing the utility of the NTE from the perspective of a certifying authority contemplating their use, it is significant that no single person or small group of persons either at ETS or outside ETS has control of or a disproportionate influence over the content of any of the National Teacher Examinations. No single user or group of users of the NTE has any influence over any aspect of the Examinations.

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[65] Further, ETS has provided for minority review and input to its staff function in the test development process. ETS staff members and researchers who are minority group members conduct periodic reviews of the Examinations. They are assisted in this work by minority group persons who are pre-doctoral and doctoral candidates in education or in testing and measurement fields who are brought to ETS through a summer internship program.

[66] These members are Robert O. Greer, Assistant Superintendent, Ohio State Department of Education; William A. Hunter, Dean, School of Education, Tuskegee Institute; Rachel B. Noel, Chairman of the Afro-American Studies Department, Metropolitan State College; Deborah P. Wolfe, Professor of Education, Queens College; Hernan La Fontaine, Bilingual Administrator, New York City Board of Education; and Charles E. Leyba, Associate Professor, California State College. *See* Appendix B for the qualifications of these educators.

[67] *See* Appendix A for the qualifications of some of these members.

Moreover, the experts who write the test specifications are independent of ETS and of each other. They come together as a group only for the purpose of writing an examination and then the group is disbanded. The next examination is written by a different group of persons, albeit having similar expert credentials. The experts who write the test specifications do not also write all of the test questions. A preponderance of the test questions are written by still other independent experts who have no connection, other than sharing a similar professional background, with the group of experts who wrote the test specifications. The ETS staff members who assist in the process of test development are experts in that field. Their function is not to control any aspect of the test development process, but rather to act in a research and coordination role.

The method by which the NTE are developed and revised is designed to ensure that the knowledge tested is a fair sample from the universe of these items taught in teacher training institutions. Each test question fits into a carefully considered plan that weighs each subfield according to its current importance in actual teaching situations. Questions that do not fairly fit the test specifications set out in the plan are discarded. The English expression with which the examination questions are put is carefully considered by the test question writers and is reviewed thoroughly by all of the experts involved in question writing plus the ETS staff members. Similarly, the level of difficulty of each question is specified by the question writer and is tested empirically both by actual administration to each of the members of the Committee of Examiners and by statistical analysis from the actual administration to persons taking the test. Any question of dubious expression or level of difficulty is discarded. The same is true of any questions raising any possibility of racial or cultural bias.

As demonstrated by the use of the NTE in North Carolina, the tests are not static. They are regularly re-written in order to reflect current developments and emphasis in actual teacher training programs.

In order to ensure the objective of measuring applicants against a truly national norm, the development process attempts to eliminate any regional bias. The experts who develop the test specifications and write the questions are distributed geographically throughout the United States. The research studies of teacher training curricula and texts done by ETS staff members cover sources from all parts

of the nation. In this respect also, the NTE reflects the best professional efforts of ETS and independent experts to develop a measurement instrument vitally needed by certifying authorities to evaluate the academic preparation of prospective teachers with no professional experience.

II. THERE IS A LIMITED GROUND UPON WHICH THE ISSUES PRESENTED BY PLAINTIFF AND PLAINTIFF-INTERVENORS SHOULD BE DECIDED

The plaintiff challenges the constitutionality and legality of Section 115-153 of the General Statutes of North Carolina which provides, in pertinent part, as follows:

> "[T]he State Board of Education shall require each applicant for an initial certificate or graduate certificate to demonstrate his or her academic and professional preparation by achieving a prescribed minimum score at least equivalent to that required by the Board on November 30, 1972, on a standard examination appropriate and adequate for that purpose; provided, further, that in the event the Board shall specify the National Teacher's Examination [sic] for this purpose, the required minimum score shall not be lower than that which the Board required on November 30, 1972."

Pursuant to this statute the State Board enforces regulations that require a score of 950 on the National Teacher Examinations as a prerequisite to the award of the Class A certificate; that grant a one-year permit to those who are otherwise qualified but do not achieve the required minimum score of 950; and that downgrade to a "non-standard" rating any teacher who does not achieve a 950 score prior to the expiration of this one-year permit.[68]

Each of the issues raised by plaintiff and plaintiff-intervenors with respect to the current actual uses of the National Teacher Examinations by North Carolina can be decided, and all the relief requested with respect to those uses can be granted, under the fundamental Constitutional requirement that any classification of persons by a state must be rationally related to a legitimate legislative purpose.[69]

The statutory guarantees of equal protection under Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e *et seq.*, upon which

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[68] State Board of Education, Policy Statement at 4 (1969) (Ex. NEAX30).

[69] *E.g., Keyes* v. *School District No. 1*, 413 U.S. 189 (1973).

plaintiff and plaintiff-intervenors rely, were enacted to provide safeguards that both incorporate and elaborate upon the basic constitutional requirement embodied in the Fourteenth Amendment. Addressed to a variety of specific employment discrimination problems, Title VII erects a series of complex and demanding standards that build upon the Fourteenth Amendment concept of equal protection. This fundamental concept remains as vital as ever, however, and constitutes a threshold question that must be addressed. The more complex statutory standards questions need be reached only if the Constitutional rational relationship test can be satisfied.[70]

Since none of the uses of the Examinations by North Carolina can withstand scrutiny under the rational relationship standard, it is unnecessary to inquire further with respect to the various statutory standards advanced by plaintiff and plaintiff-intervenors.[71]

The certification of teachers pursuant to Section 115-153 of the North Carolina General Statutes plainly involves two critical classifications of persons by the State. The first classification includes those teachers with one or more years of experience: those who have achieved a score of 950 or better on the National Teacher Examinations and those who have not. The second classification is directed at prospective teachers who do not have in-service experience: these inexperienced teachers are categorized according to those who have achieved the required minimum score of 950 and those who have not. Neither of these classification systems has a rational basis that could be related to any legitimate legislative purpose.

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[70] *See, e.g., United States* v. *City of Chicago*, 385 F. Supp. 543, 554 n.7 (N.D. Ill. 1974) (defendants did not establish that their employment selection practices were job related, and, therefore, it was unnecessary to decide whether the compelling state interest standard applied); *Chance* v. *Board of Examiners*, 458 F.2d 1167, 1177 (2d Cir. 1972) (defendants' testing requirement could not be sustained under the "more lenient equal protection standard" and, therefore, it was unnecessary to determine whether more rigid scrutiny should be applied); *Pennsylvania* v. *Rizzo*, 8 E.P.D. ¶ 9681 (E.D. Pa. 1974). *Cf. Eisenstadt* v. *Baird*, 405 U.S. 438, 447 n.7 (1971) ("[W]e do not have to address the statute's validity under [the compelling state interest] test because the law fails to satisfy even the more lenient equal protection standard"); *Turner* v. *Fouche*, 396 U.S. 346, 362 (1970).

[71] The Fourteenth Amendment was adopted, in large part, to ensure the constitutionality of the Civil Rights Act of 1866, 42 U.S.C. §§ 1981. *See* Note, *Section 1981 and Private Discrimination*, 40 GEO. WASH. L. REV. 1024, 1029 (1972). Hence, the same threshold question must be reached under § 1981 as under the Fourteenth Amendment.

A. The Classification Scheme with Respect to Experienced Teachers Rests on an Improper Use of the Examinations that Cannot Be Justified

North Carolina's use of the National Teacher Examinations has an effect on salary level, retention and tenure of experienced teachers that is well documented in the record. The holder of a one-year permit who does not achieve the required 950 score before the permit expires is automatically downgraded to a "non-standard" rating that continues until the required score is obtained. Teachers working under a one-year permit have the same salary and benefits as teachers who have achieved the cut-off score and are working under a Class A certificate. However, teachers who are working under a non-standard rating, although performing the same work, are significantly downgraded. They are paid a fixed annual salary of $4,710 regardless of experience as compared to a teacher with a Class A certificate who receives $7,560 in annual salary with regular increases to $10,710 as years of experience are accumulated.[72]

The non-standard rating affects retention and tenure, as well as salary. Teachers working under a non-standard rating must be replaced whenever a teacher holding a Class A certificate becomes available, even though that Class A certificate holder has no teaching experience. Teachers who have a Class A certificate are eligible for tenure after three years and thereafter cannot be replaced by someone with less experience. They have job security so long as their performance is adequate and cannot be "bumped" automatically in favor of anyone else.[73]

The GUIDELINES FOR USING THE NATIONAL TEACHER EXAMINATIONS published by ETS and widely distributed to users, including North Carolina, state with utter clarity that this use of the NTE is a misuse:

> Using the NTE for determining a teacher's retention, tenure or salary level is a misuse of the examinations.
>
> If an adequate and reliable record of a teacher's in-service performance is available, there is no need to measure his or her

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[72] State Board of Education, Policy Statement 4 (1969) (Ex. NEAX30); North Carolina Teacher Salary Schedule 4-5, 11 (1973-74) (Ex. PX33); Majetic Deposition at 235.

[73] Deposition of Mr. J. Arthur Taylor, Director of the Division of Teacher Certification, Department of Public Instruction, North Carolina, taken by plaintiff on April 10-12, May 28-29 1974 (hereinafter "Taylor Deposition"), Vol. II at 140-42, 150-52.

> preparation for teaching. The normal criterion for evaluating an in-service teacher is not potential but actual teaching performance. The NTE are not an adequate measure of teaching performance nor is any other single process or instrument. ETS GUIDELINES at 10 (Ex. DM3).

The reason for this uncompromising statement of misuse is simple. The NTE are not designed for use in assessing in-service teachers —they measure only the academic preparation of prospective teachers. As demonstrated above,[14] the specifications for the NTE are limited to measuring a prospective teacher's mastery of his teacher-training curriculum and the entire test development process is designed to achieve this limited purpose. No use that falls outside this design and specification is a proper one.

The STANDARDS FOR EDUCATIONAL AND PSYCHOLOGICAL TESTS, published by the American Psychological Association, urge as an essential element of proper test usage that:

> In choosing an existing test, a test user should relate its history of research and development to his intended use of the instrument. APA STANDARDS at 63 (Ex. GK3).

Accordingly, it is a *per se* misuse for North Carolina to use the NTE for determining the salary, retention and tenure of teachers holding one-year permits and non-standard ratings.

The use of the NTE to determine salary, retention or tenure has been held improper in several cases where courts have found an insufficient nexus between an NTE cut-off score and a school board decision affecting the salary or retention of experienced teachers.

In *Walston* v. *County School Board of Nansemond County*, 492 F.2d 919 (4th Cir. 1974), one of the uses of the NTE challenged by the plaintiff was the requirement that all teachers who came to the school district in the 1970-1971 school year achieve a minimum score of 500 on the Common Examinations. The school district required 127 in-service teachers to take the NTE and thereafter terminated the employment of a large number of these teachers for non-compliance with the minimum score requirement. All of the teachers who were terminated had been teaching for at least a year and some had been teaching for over a decade. *Id.* at 922. The court held that the school district had not met its burden of proving, by clear and convincing evidence, that the cut-off score bore a demonstrable relationship to the school district's alleged pur-

[14] *See* Part I, *supra*.

pose of improving the quality of its faculty. The court pointed out that ETS publications disavowed any intent to measure in-service teaching capability through the NTE and that the school district had made no study of its own to demonstrate that capacity. *Id.* at 924-25. The level of 500 was apparently chosen because neighboring school districts used that level, and the County was fearful of becoming a haven for "cast-offs" from those areas. *Id.* at 925.

In *Baker* v. *Columbus Municipal Separate School District*, 462 F.2d 1112 (5th Cir. 1972), one of the uses of the NTE challenged by plaintiffs was the requirement that all incumbent teachers hired during the 1969-1970 school year achieve a minimum composite score of 1000 on the Common Examinations and a selected Area Examination. That score requirement excluded proportionately more incumbent black than white teachers. *Id.* at 1113. The court held that the defendant's alleged purpose of improving its faculty was a legitimate one, but that the test requirement could not stand because defendants had not proved it to be rationally related to this purpose.[75]

North Carolina has a legitimate interest in making salary, retention and tenure decisions on the basis of a teacher's ability to teach effectively. However, the use of the National Teacher Examinations, with or without a cut-off score, as a substitute for assessing the performance of an in-service teacher cannot be rationally related to that interest under any circumstances. The tests were not designed or developed for assessing the performance of experienced teachers, and thus there can be no rational basis for using the NTE in that manner, even if North Carolina had attempted to demonstrate one.

B. The Classification of Prospective Teachers with No Professional Experience Is Determined by a Cut-off Score that Has Not Been Validated for that Purpose

The classification system for prospective teachers, standing alone, has a less severe adverse effect on the class of persons represented

[75] *See also Pickens* v. *Okolona Municipal Separate School District*, —— F. Supp. ——, 3 Race Rel. L. Survey 180 (N.D. Miss. Aug. 11, 1971) (requirement that all in-service teachers achieve a minimum score on the NTE for purposes of re-employment during the 1970-1971 term struck down when the cut-off score was established after the candidates' scores were received); *but see Gay* v. *Wheeler*, 363 F. Supp. 764 (S.D. Texas 1973) (requirement that all teachers in the school system achieve a composite score of 1000 on the NTE upheld where the minimum score requirement was used in conjunction with a rating system to evaluate in-service teacher effectiveness.)

by plaintiff-intervenors and does not create the substantive injustices at which the complaint of the plaintiff is directed. However, the adverse effects are significant enough that the classification system must be justified.

The system used by North Carolina divides all prospective teachers who apply for certification into two classes. Those who achieve a score of 950 or more on the National Teacher Examinations and present the other requisite qualifications [76] are given a Class A certificate. Those who fail to achieve the minimum score, but present the other requisite qualifications, are given a one-year permit. If they obtain jobs, teachers with Class A certificates and one-year permits are paid and otherwise treated the same during the first year of teaching.[77] Therefore, there are none of the most visible adverse effects that appear in the terms and conditions of employment.

However, there are adverse effects arising out of this classification system that are not insubstantial. Certification, whether through the Class A certificate or the one-year permit, does not guarantee employment. The holder of the certificate or permit has to present himself or herself to a school district and apply for a job. If there is an opening, and if there is more than one candidate for the job, the certificate or permit holder must convince the school district officials that he or she is the best qualified candidate. In this selection process, the permit holder may be at a disadvantage if candidates presenting similar credentials are Class A certificate holders because the school district may want to ensure continuity in its staff to the extent possible. The classification system for experienced teachers described above makes it possible that the permit holder will be replaced even if his or her teacher effectiveness is at a satisfactory level. This possibility may decrease the desirability of hiring any permit holder. Further, during the first year of teaching, the Class A certificate holder has to be concerned only with producing a minimum level of acceptable performance in order to be retained. The permit holder teaches under the additional burden of uncertainty with respect to his or her future even if a minimum level of acceptable performance is produced.

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[76] A candidate for certification in North Carolina must be at least 18 years of age and must present a statement from an institution that he has successfully completed an approved teacher training program. NEA MANUAL at 97.

[77] Taylor Deposition, Vol. I at 172.

The classification of prospective teachers is determined by the sole criterion of the 950 cut-off score on the NTE. Even if there were no statistical indications of a differential impact of the minimum score requirement by race, the cut-off score requirement must be rationally related to a permissible purpose in order to survive a challenge by *any* unsuccessful candidate, black or white, under the basic Fourteenth Amendment requirement. The fact that a cut-off score of some number of points can be validated [78] does not suffice when a particular cut-off score of 950 is challenged and it has not been validated.

There is no evidence in the record supporting the validity of the 950 cut-off score as applied by North Carolina.

The first cut-off score requirement was established by the State Board in 1964. At that time prospective teachers were required to attain a minimum score of 450 on the Common Examinations of the NTE as a prerequisite to the granting of a Class A certificate.[79] There is no evidence in the record that prior to establishing this score requirement, any study or appraisal was conducted by any expert, either a member of the staff of a state agency or an independent consultant, that could provide any basis for a rational relationship between the score and the stated goals of the legislature.[80]

A subsequent cut-off score requirement was established by the State Board that increased the required score on the Common Examinations to 475 as of 1967 and added a required score of 475 on an Area Examination as of 1968.[81] That requirement was modified in 1968, prior to becoming effective, to substitute a minimum 950 composite score on the Common Examinations and any Area Examination selected by the candidate.[82] During this period from 1964

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[78] *See* discussion below at pp. 41-44, describing the validation methodology to be used for a cut-off score that is a sole criterion in a certification system.

[79] Taylor Deposition, Vol. I at 160-61.

[80] In June, 1959, the General Assembly passed a resolution directing the State Board to make a study of teacher rating and certification. A Study Committee was established in October, 1959, and issued a report in January, 1961. That report did not recommend the establishment of any cut-off score and did not provide the analytical basis or framework on which a cut-off could have been established. State Board of Education, REPORT OF THE TEACHER EVALUATION RATING AND CERTIFICATION COMMITTEE (1961) (Ex. PX21). The record does not indicate that any other study was undertaken.

[81] Taylor Deposition, Vol. I at 188-90.

[82] *Id.*

to 1968 there were no analyses by any qualified expert with respect to the bases for the original requirement or the change to a new requirement. There were no requests to Educational Testing Service for advice with respect to setting an appropriate cut-off score, and indeed, ETS gave cautionary advice against the use of any cut-off score unless it had been validated in North Carolina.[83]

The present cut-off score has been carried over from 1968 and it is similarly bereft of any support in the record. No attempt has been made to validate this particular score after the fact. An Ad Hoc Committee was appointed by the Advisory Council to the State Board during this period and in 1972 produced a report that did not support the 950 cut-off score and recommended replacing it with a different kind of cut-off score.[84] Two independent studies supervised by professional educators were done in North Carolina and neither of these provided any support for the extant 950 cut-off score.[85] Advice was sought and obtained from ETS staff members, and that advice consistently opposed the 950 cut-off score.[86]

In other cases involving a cut-off score requirement for prospective teachers, courts have looked first to discover whether any effort was made to relate the cut-off score to the purpose to be achieved through the classification system and, finding none, have struck down the requirement without further inquiry. In *Baker* v. *Columbus Municipal Separate School District*, 462 F.2d 1112 (5th Cir. 1972), where a minimum score of 1000 on the NTE was required as a prerequisite for hiring prospective teachers, the court struck down the test requirement based on its finding that:

> "It is uncontradicted that the NTE cut-off score requirement was set by [the school district] without any investigation or study of the validity and reliability of the examination or the cut-off score as a means of selecting teachers for hiring . . . , and without consultation with the Educational Testing Service." *Id.* at 1114.

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[83] Taylor Deposition, Vol. II at 2-4.

[84] Memorandum from Ad Hoc Committee to State Board Members (Nov. 17, 1972) (Ex. NEADX40, item 3).

[85] J. Hall, NATIONAL TEACHER EXAMINATIONS AND SELECTED CRITERIA OF TEACHER EFFECTIVENESS (1969) (IUS No. 24); and J. Burch, *et al.*, OUTSTANDING TEACHERS IN NORTH CAROLINA: PRINCIPALS' RATINGS AND NTE SCORES (1970) (Ex. NEAX46). *See* additional discussion of these studies *infra* at pp. 48-50.

[86] Taylor Deposition, Vol. II at 163; Majetic Deposition at 238, 254-55, 465-66.

The record in this case is similarly bare of any effort by North Carolina to develop a rational relationship between the 950 cut-off score and its legitimate purpose of certifying as teachers only those persons who have adequate academic preparation.[87]

Without any evidentiary basis in the record, either prior to the setting of the cut-off score or after the fact, North Carolina cannot establish the necessary rational relationship between the cut-off score that is mandated by Section 115-153 and any legitimate legislative purpose that might support that statute. In the absence of such a relationship, this particular use of the NTE must fall under the controlling legal standards articulated in *Baker* and other similar cases. No further finding by the Court is required.[88]

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[87] *See also Walston* v. *County School Board of Nansemond County*, 492 F.2d 919 (4th Cir. 1974) (minimum score of 500 on the Common Examinations of the NTE required as a pre-requisite for hiring prospective teachers struck down on finding of no rational relationship to intended purpose); *cf., Morgan* v. *Hennigan*, 379 F. Supp. 410, 456-66 (D. Mass. 1974) (minimum score of 560 on an Area Examination used with a rating system for hiring prospective teachers criticized as without a rational connection to stated goal of faculty improvement); *Armstead* v. *Starkville Municipal Separate School District*, 461 F.2d 276 (5th Cir. 1972) (minimum score of 500 on the Common Examinations proposed as a temporary alternative to achieving a required minimum score on the Graduate Record Examinations as a pre-requisite for hiring prospective teachers; entire testing requirement struck down as lacking the necessary rational relationship to a legitimate purpose).

Indeed, in one case involving a use of the National Teacher Examinations, the court found that the policy under which the test scores were used was itself arbitrary and capricious, and did not even reach the issue of whether the threshold rational relationship of the test scores to a legitimate purpose could be found. *United States* v. *Chesterfield County School District*, 484 F.2d 70 (4th Cir. 1973).

[88] A great many of the findings of fact proposed by plaintiff and plaintiff-intervenors are unnecessary for a decision on this limited ground because they look to more stringent statutory standards.

See plaintiff's proposed findings of fact numbered C-1, C-2, C-3, C-6, C-7, C-8, C-10, C-14, C-15, C-17, C-18, D-13, D-14, D-15, and *see* plaintiff-intervenor's proposed findings of fact numbered 32, 34, 38, 41, 42, 43, 51, 52, 53, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 72, 78, 79, 80, 81, 85, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 131, 132, 133 and 134.

There are also findings of fact proposed by plaintiff and plaintiff-intervenors that are unnecessary for this decision because they go to ancillary issues of test bias and validation methodology that need not be decided by this Court. *See* discussion *infra* at p. 51.

III. THE ANCILLARY ISSUES RAISED BY THE PLAINTIFF WITH RESPECT TO INHERENT CULTURAL BIAS AND LACK OF VALIDITY OF THE NATIONAL TEACHER EXAMINATIONS ARE HYPOTHETICAL, NOVEL AND COMPLEX, AND NEED NOT BE DECIDED BY THIS COURT

Throughout its brief, the United States has linked issues relevant to the specific uses of the National Teacher Examinations by North Carolina with more general issues relevant to the Examinations themselves, regardless of their use, in an open invitation to this Court to decide these broader issues.[89] The issues with respect to the alleged inherent test bias involve complex questions of fact that cannot be decided on the limited record before this Court. Plaintiff's contentions that all users must employ a single restricted validation method for the NTE, notwithstanding its content validity and variety of uses, raise novel questions of law that have not been decided by any other court. Further, an adjudication of these issues would be entirely advisory since all of the relief necessary to right any existing wrong by defendants can be founded upon the limited ground discussed above in Section II.

A. The Examinations Have No Inherent Racial or Cultural Bias

The plaintiff refers to certain statistical analyses of NTE scores by race and to particular studies of various aspects of the NTE to support the inference that the NTE are inherently biased against minority group persons. However, the evidence in the record does not support that conclusion.

1. *The Statistical Analyses Indicate Differential Educational Opportunities by Race rather than Inherent Test Bias*

The plaintiff criticizes any use of the NTE for certification purposes, whether or not the requisite rational relationship is established, primarily on the ground of some undefined racial bias contained in the tests. The plaintiff repeatedly refers to statistics that allegedly show a poorer performance by blacks as a group than by whites as a group. It also emphasizes that the defendants maintained an officially segregated school system perhaps as late as 1964, and that the effects of that segregation are still apparent because teacher training institutions within the State are still largely black

[89] It should be noted here that, for the most part, the plaintiff-intervenors have refrained from any expansion of the issues beyond those raised by the specific uses of the NTE by North Carolina.

or white.[90] But plaintiff fails to acknowledge any link between these two phenomena, instead blaming some unknown aspect of the NTE for the disparate performance of blacks and whites.

Yet the connection is plain. If North Carolina schools were officially segregated prior to 1964, as plaintiff alleges they were, and if North Carolina teacher training institutions presently have distinct racial identities, as defendants' officials testified they do,[91] then black examinees in North Carolina are coming from a distinct and separate educational experience than white examinees in North Carolina. The NTE are all knowledge oriented tests—achievement rather than aptitude tests.[92] The differential results on the NTE achieved by black examinees and white examinees, therefore, may have nothing to do with an individual examinee's intelligence, native ability or inherent good qualities. Instead, these test results reflect primarily the knowledge imparted by the educational institutions from which the examinees come. If the educational institutions that the examinees attend do not impart the knowledge, or enough of the knowledge, required to answer correctly the questions on the National Teacher Examinations, then a low score will result, regardless of the race of the examinee.

In essence, the same data relied upon by plaintiffs to prove that the NTE discriminate against blacks could be relied upon to show differential performance of the teacher training institutions within North Carolina. Indeed, the more accurate message of this data is that according to a national norm, certain institutions in North Carolina that are training teachers are more successful than others. If this interpretation of the data is at least equally compelling as that advanced by plaintiff, then the data cannot fairly be relied upon to prove alleged racial bias in the NTE.

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[90] Trial Brief of the United States at 8, 18-37, and 113-20.

[91] Deposition of Joseph L. Cashwell, Jr., Assistant Director of the Division of Teacher Education, Department of Public Instruction, North Carolina, taken by defendants on Dec. 13, 1974, at 163-67; Taylor Deposition, Vol. II at 43-52.

[92] Majetic Deposition at 60. If an examinee does not have the knowledge called for by the question, he cannot answer the question no matter how much native ability or aptitude he may have. Guessing does not help his score because ETS uses a formula score that corrects for guessing. If test questions on an examination have five alternative answers, one of which is the correct answer, one-fourth of the number of wrong answers is subtracted from the number of correct answers. This formula makes zero the score that would most likely be obtained by random guessing.

2. *The Research Studies Contain No Independent Investigations of Test Bias*

The plaintiff also asserts that "studies of the NTE have found the examinations to be culturally biased against blacks." [93] However, neither of the two studies relied upon by plaintiff supports this conclusion.

The first is a report produced in 1961 by the Study Committee appointed by the North Carolina State Board of Education.[94] That report contains a discussion of the data reported by ETS on NTE scores by teacher training institutions in North Carolina. No other research work was done, and no other data on NTE scores, either inside or outside North Carolina, was assessed. The report, as excerpted by plaintiff, states that: "Distribution of scores are apparently related to these differences in cultural and economic backgrounds." [95] The very next sentence, not cited by plaintiff, goes on to conclude: "Therefore, hypotheses must be established and tested concerning the socio-economic differences among students." The Committee never purported to reach any conclusions about test bias and, having utilized only the data by institution discussed above, the study's findings are subject to the same limitations explained there, and do not support any logical conclusion that the tests themselves are racially or culturally biased.

The second study relied on by plaintiff to support its assertion of inherent cultural bias is a study done in 1970 by officials of the State Department of Public Instruction and ETS employees in which various criticisms of the NTE are summarized.[96] One such criticism is that graduates of black colleges attain lower scores on the NTE than do the graduates of white colleges. However, that study contains no data at all as a basis for that assertion. It cites no other studies or data and the research reported in this study is unrelated to the issue of test bias. This study cannot provide any independent support for plaintiff's contention.

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[93] Trial Brief of the United States at 8.

[94] State Board of Education, Report of the Teacher Evaluation and Certification Committee (1961) (Ex. PX21).

[95] *Id.* at 19 (cited at Trial Brief of the United States at 28).

[96] J. Burch *et al.*, OUTSTANDING TEACHERS IN NORTH CAROLINA: PRINCIPALS' RATINGS AND NTE SCORES 1-2 (1970) (Ex. NEAX46). This study was not sponsored by ETS and was not done according to a research design that complies with ETS standards. *See* discussion *infra* at pp. 49-50.

As pointed out in Section I(D) above, ETS takes great care in the development of the National Teacher Examinations to prevent any cultural or racial bias. Plaintiff points to no specific question, part of the Examinations, or practice with respect to the test development process that could be responsible for any such bias. ETS asserts that there are none and that the limited record in this case provides no basis for invalidating, on grounds of racial bias, any and all uses of this professionally-prepared measurement tool.

B. The Examinations Are a Valid Measure of the Academic Preparation of Prospective Teachers

At the heart of the many contentions advanced in this case regarding the validity of the NTE are two fundamental issues with respect to certification of teachers. The first is that a certain core or critical mass of knowledge in academic subject matter fields is a necessary prerequisite of effective teaching. The second is that the state is entitled to impose, through its certification process, certain minimum requirements with respect to mastery of such knowledge. The NTE are designed to measure academic preparation and can be used to assist state officials in making certification decisions. Plaintiff's assertions with respect to the validity of the NTE fail to distinguish among the various uses of the NTE and are without legal or professional support.

1. *Academic Preparation Is of Critical Importance to Effective Teaching and the State Has a Legitimate Purpose in Assuring that It Is Adequate*

It seems self-evident that effective teaching requires that a teacher must know what to teach and how to teach it.[97] The teacher's central task is to impart to students certain knowledge and the ability to apply knowledge to various problems. That transfer of knowledge is essential if the educational process is to have any value.

It would be intellectually difficult to argue that one who had an insufficient mastery of the subject matter could effectively impart

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[97] Plaintiff-intervenors North Carolina Association of Educators and the National Education Association concede that a teacher must have knowledge of the subject matter to be taught. *See* ID-NCAE No. 4 and ID-NEA No. 15.

knowledge to students.[98] The entire teacher training process is an effort to provide a prospective teacher with sufficient knowledge to qualify him as a teacher. The courses taken in teaching methods, counseling methods and classroom management techniques are all designed to impart knowledge. To emphasize the primacy of knowledge, of course, is not to deny the importance of the teacher's personality or to assert that knowing what to teach and how to teach guarantees skillful and effective teaching. It is recognized that there is a substantial gap between the acquisition of the requisite knowledge and effective teaching. What is contended, however, is that without the requisite level of knowledge there could not be effective teaching.

The right of a state to require a minimum amount of knowledge as a precondition to teacher certification seems equally self-evident. Every state compels children to go to school for at least 10 years and provides a public school system for that purpose. By compelling children to accept schooling, the state undertakes a heavy burden to provide adequate teachers and is justified in exercising reasonable, expert judgment as to the level of education to be required of its teachers.[99]

States have generally undertaken to meet these responsibilities by establishing certification procedures.[100] Such standards are established by states to provide reasonable assurance that candidates for

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[98] It should be pointed out here that plaintiff's expert, an industrial psychologist, has a contrary view.

Dr. Kirkpatrick: "But the thing, in my opinion, from my teaching experience and what I know about teachers, that I have been impressed with and what I know about what teachers have to frequently do and do well, and that is to be able to teach what they don't know, or at least don't know going in to teaching the course." Deposition of Dr. James J. Kirkpatrick, Professor, Department of Manpower Management, California State University, taken by plaintiff on August 23-24, 1974 at 217.

[99] The necessity of assuring that teachers possess minimum qualifications to teach underscores the inapplicability of test validation models associated with industrial hiring. In an industrial situation, an employer can afford to take substantial risks on new employees. If the employee does his work poorly, and some units of production are damaged or substandard, the employer can remedy the results by weeding out the inferior product and firing the employee. Further, the public can protect itself by not buying the product. However, a state cannot afford similar risks with children. A teacher cannot be tried out on the job to see if he or she has the requisite qualifications because a poor teacher can cause irreparable educational damage to his students.

[100] *See* NEA MANUAL Ch. II.

a professional position possess a level of competence that will protect the public from injury. State requirements for teachers, such as North Carolina's teacher certification process, create a pool of persons who possess certain basic minimum qualifications judged by the state to be necessary for any teaching position within the state.[101] The process of licensing or certifying prospective teachers for employment is fundamentally different in purpose and effect than the selection of licensed teachers for particular teaching positions within a school system. Certification does not select an individual for a job or guarantee him a job. It merely ensures that the school systems within a state will make their selections from among a pool of prospective teachers who are likely to possess basic minimum qualifications. The actual employment decision is made by the local school system in light of their special needs and the available talent among the certified prospective teachers.

The right of a state to adopt academic requirements that must be met before an individual may be licensed to practice a profession has been consistently protected by the courts. In *Dent* v. *West Virginia*, 129 U.S. 114 (1889), the Supreme Court considered one of the first challenges to a state's certification requirements. In upholding the education and examination requirements for the practice of medicine, the Court stated:

> "The power of the State to provide for the general welfare of its people authorizes it to prescribe all such regulations as, in its judgment, will secure or tend to secure them against the consequences of ignorance and incapacity as well as of deception and fraud. As one means to this end it has been the practice of different States, from time immemorial, to exact in many pursuits a certain degree of skill and learning upon which the community may confidently rely, their possession being gen-

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[101] The basic minimum qualifications for licensing teachers vary from state to state, just as the academic and other qualifications vary from state to state for licensing lawyers, doctors, dentists, architects and nurses. For example, the teacher licensing requirements in some states include minimum age qualifications; other states require a minimum number of recommendations attesting to a candidate's personal qualities; still other states require citizenship, a medical examination, and a determination as to moral character. *See generally* NEA MANUAL Ch. II.

State licensing of teachers generally recognizes that there are at least four major levels of teaching assignments—elementary, junior high, secondary and college—and that there are many subject area specialities within each of these levels. Accordingly, the licensing process is often designed to insure competency within these various areas of practice. *Id.*

> erally ascertained upon an examination of parties by competent persons, or inferred from a certificate to them in the form of a diploma or license from an institution established for instruction on the subjects, scientific and otherwise, with which such pursuits have to deal. *The nature and extent of the qualifications required must depend primarily upon the judgment of the State as to their necessity. If they are appropriate to the calling or profession, and attainable by reasonable study or application, no objection to their validity can be raised because of their stringency or difficulty.*" 129 U.S. at 122. (Emphasis added.)

The right of a state to fix the minimum level of competency it deems necessary to protect the public welfare has been accorded continuous judicial recognition in such disparate professions as pharmacy, *Stephens* v. *Dennis*, 293 F. Supp. 589 (N.D. Ala. 1968); law, *Lombardi* v. *Tauro*,[102] 470 F.2d 798 (1st Cir. 1972); dentistry, *Graves* v. *Minnesota*, 272 U.S. 425 (1926);[103] optometry, *Williamson* v. *Lee Optical Co.*, 348 U.S. 483 (1955); chiropractic medicine, *England* v. *Louisiana Board of Medical Examiners*, 246 F. Supp. 993 (E. D. La.), *aff'd*, 384 U.S. 885 (1966) and teaching, *Milner* v. *Burson*, 320 F. Supp. 706 (N.D. Ga. 1970).

The distinction between certification and selection is an important one. The numerous employment testing cases that followed *Griggs* v. *Duke Power Co.*, 401 U.S. 424 (1971), have established rigorous standards for validating employment selection tests found to have a disparate racial impact. The plaintiff has cited these cases to guide this Court's review of North Carolina's use of the NTE, but has failed to distinguish a state's use of the NTE to license teachers from a local school board's use of the NTE to select or retain teachers who have already been licensed. Each of the cases cited by plaintiff involved industrial or occupational

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[102] In this case, plaintiff challenged the Massachusetts requirement that one must be a graduate of a qualified law school to qualify to take the bar examination. The Court emphasized the unwillingness of the judiciary to "become arbiters of educational policy, a task for which they would be particularly ill-suited." 470 F.2d at 801.

[103] "We cannot say that the State is acting arbitrarily or unreasonably when, in the exercise of its judgment, it determines that the holding of such a diploma is a necessary qualification for the practice of dentistry. . . ." 272 U.S. at 428-29.

employment selection tests[104] or the use of the NTE by local school boards to select teachers for particular jobs or to retain teachers with on-the-job teaching experience.[105] Plaintiff fails to point out that not one of the cases it cites involved an examination requirement established by a state as part of a process of licensing professionals.[106]

Judicial review of state licensing requirements which establish a minimum level of competency for entry into a profession should defer to rational state judgments regarding the eligibility standards for professionals. A state licensing scheme that establishes academic qualifications by reference to an approved curriculum, a professionally-developed achievement test or both, is valid if the state requires a reasonable level of competency and prescribes a rational, legitimate method for insuring that individuals have attained that level of competency. The NTE, properly used, can provide such a

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[104] The Trial Brief of the United States contains citations to 33 cases, of which 8 are cases in which there was an issue raised with respect to the use of a test. Four of those testing cases involved the NTE, *see* n. 105 below, and the remaining four cases involved industrial employment selection tests: *Griggs* v. *Duke Power Co.*, 401 U.S. 424 (1971) (use of minimum score requirement on the Wonderlic Personnel Test and the Bennett Mechanical Comprehension Test as a pre-requisite for operations, maintenance and laboratory jobs at an electric power generating facility); *Moody* v. *Albermarle Paper Co.*, 474 F.2d 134 (4th Cir.), *cert. granted*, 43 U.S.L.W. 3349 (Dec. 17, 1974) (use of minimum score requirements on the Revised Beta Examination and the Bennett Mechanical Comprehension Test for various skilled jobs in pulp and paper mills); *United States* v. *Georgia Power Co.*, 474 F.2d 906 (5th Cir. 1973) (use of minimum score requirement on a battery of tests developed by the Psychological Corporation as a pre-requisite for jobs in the steam plants, repair shops and operating divisions of an electric power generating facility); and *Castro* v. *Beecher*, 459 F.2d 725 (1st Cir. 1972) (use of a minimum score requirements on a state civil service examination as a pre-requisite for the job of police officer).

The Plaintiff-Intervenors' Proposed Findings of Fact and Legal Argument contains citations to 22 cases, of which eight are testing cases. Six of those testing cases involved the NTE, *see* n. 105 below, and the two remaining cases, *Griggs* and *Moody*, involved industrial selection tests as noted above.

[105] *See* discussions of these cases above at pp. 23-24, 27-28.

[106] Plaintiff-intervenors cite two such cases: *Konigsberg* v. *State Bar of California*, 353 U.S. 252 (1957), which is distinguishable on the facts since the plaintiff in that case took and passed the bar examination but was denied certification on other grounds; and *Schware* v. *Board of Bar Examiners of New Mexico*, 353 U.S. 232 (1957), which is also distinguishable on the facts because plaintiff in that case was not permitted to take the bar examination and therefore was denied certification.

measure of competency. The validation methodology for various appropriate uses of the NTE—not involved in this case—is described below. Such an analysis confirms that the plaintiff's challenge to any and all uses of the NTE is not only premature but also wrong on the merits.

2. *The Examinations Have Content Validity with Respect to the Academic Preparation of Prospective Teachers*

The basic validity of the NTE is established if knowledge of particular academic subjects is an important part of the job of teaching, and if the NTE do, in fact, measure the academic preparation aspect of the job of teaching. As discussed above, the knowledge gained during academic preparation is an essential element of effective teaching. Thus, to establish the validity of the NTE one must demonstrate that the NTE actually measure the content of the academic preparation of prospective teachers. This is known as "content validity," and it is established in this case by the method by which the Examinations are constructed.

The American Psychological Association has described one professionally-accepted process for establishing the validity of a test of knowledge:

> To demonstrate the content validity of a set of test scores, one must show that the behaviors demonstrated in testing constitute a representative sample of behaviors to be exhibited in a desired performance domain. Definitions of the performance domain, the user's objectives, and the method of sampling are critical to claims of content validity. An investigation of content validity requires that the test developer or user specify his objectives and carefully define the performance domain in light of these objectives. APA STANDARDS at 28 (Ex. GK3).[107]

By the process described in Section I above, ETS has followed precisely the procedures described in the APA STANDARDS. The objectives of each examination have been carefully specified. For example, each component part of the Common Examinations has the objective of testing a candidate's knowledge in the areas of Professional Education and General Education. The Professional Edu-

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[107] It should be noted here that the APA STANDARDS are much cited by the plaintiff, *e.g.*, Trial Brief of the United States at 56-59, 61, 63-67. However, these citations also generalize across various uses of the NTE and, as described *infra* at pp. 45-47, citations appropriate to a use for selection purposes with a cut-off score are inappropriate to support a proposition that test validity has not been established for a general advisory use without a cut-off score, or for a certification use with a cut-off score.

cation component of the Common Examinations has the objective of testing each of three specific subjects: psychological foundations of education; societal foundations of education; and teaching principles and practices. The General Education component of the Common Examinations has the objective of testing six other specific subjects: social studies, language, literature, the fine arts, science and mathematics. Likewise, each of the Area Examinations is limited to testing a particular subject matter field. These subject matter fields are the "performance domains" to which the APA STANDARDS refer.

Further, as described in Section I above, the method of sampling is carefully and professionally controlled, as required by the APA STANDARDS. A matrix is created to define the specifications of the test within each subject matter field. These specifications control the number of questions in each subject and the level of difficulty of the questions.

This method employed by Educational Testing Service to construct the National Teacher Examinations is described with approval in the APA STANDARDS:

> "If a test is used to estimate achievement in American history in Grade 12, the performance domain is less objectively defined [than in a previous example]. Given agreement on instructional objectives, it could be defined in terms of the types and quantities of the skills, facts, and concepts of American history, *as determined by the pooled judgments of authorities, experienced teachers, and competent curriculum makers in that field.*" APA STANDARDS at 28 (Ex. GK3). (Emphasis added.)

It is precisely such a pooled judgment of experts that is used to construct the tests that are part of the National Teacher Examinations. Nowhere have the plaintiff or plaintiff-intervenors challenged the qualifications of any of the experts who participated in creating these tests to make such judgments.

The only challenge to the underlying validity of the Examinations arises out of plaintiff's miscellaneous assertions that there are aspects of teacher effectiveness other than knowledge that should be considered in making decisions about prospective teachers. As reflected above, ETS does not dispute that effective teaching requires more than knowledge. Plaintiff's conclusion that the NTE therefore is an invalid measurement tool is fallacious in two important respects.

First, no single measure of classroom effectiveness of teachers exists. In fact, there is no agreement within the teaching profession as to the essential qualities of a good teacher, although it seems generally agreed that whatever these qualities are, they may vary from one teaching position to another. One investigator has identified at least twenty-five different skills, abilities or qualities of critical teacher behavior.[108] The testing and measurement profession as yet has no single measurement device to measure all of these attributes, and the teaching profession as yet has no criterion by which the presence or absence of all of these characteristics in an individual teacher can be assessed.

Second, the absence of such a single measurement tool provides no logical basis for abandoning the NTE. The Examinations are designed for the sole purpose of evaluating the academic preparation of prospective teachers. The attribute measured by the NTE is clearly an indispensible one. Plaintiff's concern over other aspects of teacher effectiveness, in short, is no reason to cast aside proven professionally-developed approaches to parts of the measurement problem such as the NTE.

3. *Plaintiff's Assumption that All Uses of the Examinations Must Be Validated under a Single Method Is Incorrect and without Professional or Legal Support*

The measurement of academic preparation of teachers provided by the NTE makes it appropriate for a wide variety of uses; and with respect to each of those uses, a separate validity must be established by the user demonstrating the relationship of academic preparation to the particular objectives of the user. The plaintiff generalizes across all uses and urges that only a criterion-related validity study based on an industrial-type job analysis is sufficient to support the use of the NTE for any purpose. Plaintiff's generalization is unsupportable and substantially clouds the issues before this Court.

The NTE have three broad categories of uses designated as appropriate by ETS: general advisory uses, certification or licensing uses and selection uses.[109] The validation method for each of these categories of uses is different, and is described below.

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[108] D. Ryans, CHARACTERISTICS OF TEACHERS 82 (1960).

[109] It should be noted here that any use of the test with teachers who have substantial in-service experience for the purpose of determining salary, retention or tenure benefits falls outside these categories of appropriate uses. As discussed above at pp. 22-24, those uses with experienced teachers are *per se* misuses of the Examinations.

(a) *General Advisory Uses without a Cut-off Score*

One important use of the Examinations is a general advisory use with respect to the academic preparation of prospective teachers. A general advisory use does not involve setting a cut-off score. Under this type of use, scores on the Examinations are consulted as a measure of academic preparation, that may be used alone or in conjunction with other measures, both of academic preparation and other desirable qualities, to create a profile of a prospective teacher's knowledge and skills.[110] The user is aided by the scores on the Examinations in reaching an over-all judgment about a candidate or a group of candidates and special interpretive aids may be used with the scores to account for particular local conditions. This type of general advisory use can be employed by state and local officials for certification of prospective teachers and may also be used by school district officials for the selection of teachers.[111]

The validity of the Examinations for this purpose is established by the underlying content validity of the Examinations themselves. The scores are only one of multiple criteria considered and do not control any decision-making process. The relationship of the scores to the decision-making process is established by the relevance of knowledge gained through academic preparation to the decision to be made.

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[110] The other measures of academic preparation are generally college transcripts and student teacher ratings. The measures of other desirable qualities commonly include extra-curricular collegiate activities, previous job experiences, recommendations, and personal interviews.

[111] There are other types of general advisory uses outside the certification and selection fields. Teacher training institutions use NTE scores in evaluating their instructional programs, admission policies, grading procedures, and student eligibility policies. The average scores of all students in the college who took the test at one or more administrations can be compared with the average scores for institutions across the nation. This may indicate strengths and weaknesses in the academic program or may help college officials to assess the level of academic program that is most useful for their particular student body.

State officials also use average scores by teacher training institutions to compare the outcome of various teacher training programs within the state, and to compare their state programs with regional and national norms. These comparisons might suggest areas for additional funding and training programs.

A third general advisory use that relies on the test scores alone is that of counseling prospective teachers during their undergraduate academic preparation. The Examinations scores enable a student to compare his academic achievement with a national sample of his peers and help to orient his future studies to his strengths and areas of particular need.

(b) *Certification Uses with a Cut-Off Score*

The use of the National Teacher Examinations with a cut-off score introduces an additional element into the validation process. A cut-off score operates as a single determinant. Those who do not achieve the required minimum score are eliminated from consideration and the use of a cut-off score effectively precludes consideration of other variables or factors. The validation issue associated with the use of a cut-off score on an achievement test is two-fold: First, the measurement provided by the test must be rationally related to the user's objective. Second, the cut-off score must actually separate, at a level of statistical significance, those who do not have the qualifications to meet the objective from those who have the necessary qualifications.

Again, because the plaintiff's attack on the validity of the NTE is unduly generalized, it is necessary to frame precisely the matters which are *not* at issue when considering the validity of the NTE with a cut-off score for certification purposes. First, discussion of this category of uses includes only the certification of *prospective* teachers. Cut-off scores which affect salary, retention or tenure decisions are misuses of the NTE, as described above at pages *22-24*, and cannot be validated at all. Second, all consideration of selection issues, that is, placing a particular person in a particular job, must be set aside. The use of the NTE for selection is discussed below at pages *45-47*. These distinctions must be made because certification is fundamentally different than selection and the standards for validation are necessarily different.

The official position of ETS with respect to the use of cut-off scores is as follows:

> "The use of cut-off scores on the NTE—or any other assessment instrument—is generally discouraged." ETS GUIDELINES at 10. (Ex. DM3)

ETS believes that, if other suitable and useful measures of a candidate's skills and abilities are available, the scores on the Examinations should be used in conjunction with that other information to create a more complete profile of the candidate. However, ETS also recognizes that for some purposes, the level of academic preparation, which is measured by the NTE, can be a legitimate determinant. Two single determinants that may be used are a required score on the Common Examinations alone, which measures the academic preparation common to candidates in all teaching

fields, and a required composite score, which represents a candidate's performance on the Common Examinations together with one of the 28 Area Examinations. With respect to a composite score determinant, the ETS GUIDELINES recommend:

> "If a single qualifying level must be set across teaching areas, using a percentile rank is preferable to setting a specific score. A single score will yield substantially different numbers of qualifying candidates among teaching areas; for example, a score of 500 on the NTE Biology and General Science examinations would disqualify about 2% of the biology majors (on the basis of national norms), whereas the same score on the NTE German examination would eliminate nearly 17% of all German majors." ETS GUIDELINES at 11. (Ex. DM3)

Certification of prospective teachers is one purpose for which a cut-off score on the Examinations may legitimately be used. Since North Carolina utilizes an approved program as a basis for its certification process, the validation of a cut-off score is discussed here in that context, although there are other systems in which cut-off scores can be used legitimately.[112]

The plaintiff embraces the concept of an approved academic program as the basis for a certification process.[113] The approved program is one measure of academic preparation. It is established through the judgment of experts in the field of education as to appropriate subject matter fields that will be required of all teachers, appropriate subject matter fields for teacher specilization, and the appropriate combination of general education and specialization for a complete program of academic preparation.

Every approved program has a cut-off score, and the concept of a cut-off score is an inherent and necessary part of any approved program. The cut-off score is a composite grade point average that a student must achieve in order to complete the approved program. Plaintiff does not suggest that teacher training

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[112] One such system is a multiple criteria plan that was considered in North Carolina in 1972 and 1973. Proposed Exit Criteria (Ex. PX7). Under this system, each criterion, such as grade point average, NTE scores, personal characteristics, professional performance, and recommendations is assigned a number of points. The candidate must achieve a required minimum number of points to be certified. The NTE scores may become a "mini-cut-off score" because if a candidate scored zero points on the NTE portion of the scale, as a practical matter, the candidate could not accumulate enough points scored on the other portions of the scale to reach the required composite minimum.

[113] *See* Trial Brief of the United States at 99-107.

institutions should use a large number of possible predictors of effective teaching in order to determine whether a student should graduate from an approved program. It is conceded, by implication, that a cut-off score, which is a required minimum grade point average for graduation, is an appropriate single determinant, even though such a score necessarily cuts across teaching area specialties. If a student does not achieve this cut-off score, graduation will not be possible, and none of the student's other desirable skills and attributes that might lead to effective teaching will be considered.

Notwithstanding its clear purpose and effect, plaintiff does not suggest that any validation study is necessary to set the cut-off score within an approved program. Those composite scores are established by expert judgments as to a minimum level of achievement that is acceptable within the approved program.

The National Teacher Examinations are an alternate measure of academic preparation, that parallel the approved program. The cut-off score established by state officials with respect to the NTE is a measure of a minimum level of achievement within the approved program that parallels the cut-off score within the approved program itself. The two measures complement each other. The existence of an approved program does not make all other measures, such as the NTE, irrelevant or unnecessary. Each measurement device, such as an approved program requirement, has practical limitations that may be overcome or compensated for by the use of a parallel measurement instrument.

The limitations of an approved program are readily apparent. The existence of the program on paper is no guarantee that the program actually operates according to specifications in practice. The approved program may call for specific courses that have a designated content. But in practice, some teachers may reach the end of the course outline by the end of the semester and others may not. Some teachers may emphasize particularly difficult parts of the course and others may skip those parts of the course entirely. There are problems of grading that are particularly acute at the lower end of the scale. A given performance on an examination or paper may result in a grade of C from one teacher and a grade of D from another teacher with higher standards. Students who are more personable and able to explain their learning problems may be awarded a D grade while other students who do not ap-

proach the teacher with an explanation may be awarded a grade of F. Some students may just barely reach the required minimum grade point average through a combination of fortuitous circumstances and yet not possess the desired minimum amount of subject matter knowledge that the approved program set out to provide. Further, the enormous ramifications of withdrawing approval of an established program almost certainly assure that there will be an extended time lag between the time the program fails to perform at the approved level and the time approval is actually withdrawn. Students who graduate from the program during this time interval are not adequately measured by the minimum grade point average produced in the program.

To compensate for these limitations and to create a parallel measure that judges the product rather than the process, a state may wish to establish a requirement for certification that includes achievement of a minimum required score or a minimum required percentile ranking.

The establishment of the cut-off score must be done only after careful study by qualified experts. Under one such study method, the expert would study each part of the test and compare it to the relevant part of the approved program. A determination must be made as to what extent the test covers the subject matter included within the approved program. This must be done separately for each subtest on the Common Examinations and for each area specialty of each of the Area Examinations. The detailed comparison study would provide the basis for deciding whether to select part of the NTE battery for a basic minimum requirement or whether the entire NTE battery should be used as a parallel measure of an existing approved program. Once that decision is made, then the expert can determine the cut-off score on the NTE that matches the amount of knowledge intended to be represented by the grade point average cut-off score of the approved program.

The determination with respect to any cut-off score, whether made in an approved program or on a standardized achievement test, necessarily involves a subjective judgment. But all known methods of test validation depend in large part on expert judgment, and all measures rely on statistical probability rather than absolute certainty. This process of validation is not without substantial safeguards. The qualifications of the experts and the procedures followed that support the judgment made are subject to close scrutiny through discovery and judicial review for fairness and adequacy.

(c) *Selection Uses with a Cut-off Score*

Selection involves fitting a particular person to a particular job. In North Carolina, as elsewhere, certification is not tantamount to selection. Once certified by the state, a prospective teacher still has to find a job. Typically there are many more candidates certified by the state than candidates actually selected and employed by a school system. ETS discourages the use of a cut-off score for selection purposes. ETS GUIDELINES point out:

> "School personnel officials who are selecting teachers should weigh all evidence of each applicant's ability before making a decision. . . . [A] judgment would then be based on a profile made up of each candidate's college record, test scores, recommendations, interviews, student teaching and so on." ETS GUIDELINES at 10 (Ex. DM3)

However, the use of a cut-off score in this manner is not automatically a misuse; ETS advises that a cut-off score can be validated by a state or by a school system. To assist local officials in such a project, ETS has published the MANUAL FOR DESIGNING AND CONDUCTING VALIDITY STUDIES BASED ON THE NATIONAL TEACHER EXAMINATIONS (1972) (Ex. GM16). (Hereinafter "ETS MANUAL".)

Such a validation project would begin by the selection of the criterion or criteria against which the NTE scores would be measured. There are at least twenty-five criteria which have been suggested by or used in validation studies in the past.[114]

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[114] The possible criteria include biographical inventory, questionnaire, interest inventory, satisfaction with teacher training program, satisfaction with practice teaching, career plans and expectations, satisfaction with first year of full-time teaching experience, number of years of teaching experience, college overall GPA, GPA in academic major, GPA in education courses, grade in practice teaching, persistence (completion of training program), ratings by pupils, ratings by college field supervisor, ratings by school district supervisor, ratings by school principal, ratings by peers (other teachers), ratings by faculty or counselor recommendation, end-of-course examination, departmental examination, interview information, personality measures, Graduate Record Examinations scores, end-of-training scores, in-basket exercises, simulation tests (microteaching tests), job performance scores, classroom observation by trained observers (time-sampling), completion of first year of full-time teaching within three years of completion of the teacher-training program (persistence), number of years of teaching in the district, total number of years of teaching experience (full-time equivalent), number of promotions (department head, assistant principal, principal, etc.), teacher transfer out of school district, pupils' achievement test scores, performance tests. ETS MANUAL at 6-7 (Ex. GM16).

Selecting the criteria involves a very critical judgment. The criteria, by definition, become the measure of teacher effectiveness against which the NTE scores are to be compared to see if they too are measures of teacher effectiveness. If the criteria are not reliable, then the correlation between the NTE scores and the criteria will have no meaning with respect to the ultimate judgment as to whom is an effective teacher.

Some of the more obvious criteria have inherent and obvious defects. Student teaching grades for example are a criterion about which there is substantial doubt.[115] Grades given for student teaching may be based on work other than in the classroom; there is variation in the way supervisors grade student teachers and a variation in grading standards among different institutions; the spread of grades in student teaching courses is very limited—almost all students receive a grade of A or B—so that its utility for predicting individual differences is quite limited;[116] and full-time teaching differs substantially from student teaching so that the prediction may be inaccurate.[117] The criterion of ratings by supervisors also may have some inherent difficulties. The persons doing the ratings may have very different approaches and attach different meanings to qualities such as "leadership," "adaptability," or "sensitivity" that they are rating; the ratings may be done on the basis of a very short and inadequate observation; the raters may know the teachers being rated personally and their personal likes and dislikes may affect the rating. Each validation study must select the criterion or combination of criteria that is most appropriate for the local situation.

A validation study also requires a sample of a size sufficient to justify the generalizations made from it. A number of 85 is suggested by the ETS MANUAL, although a smaller size may be possible under particular local circumstances.[118]

Once the criteria have been identified and the sample selected, data are gathered for each person in the sample with respect to

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[115] *See* Mahaffey, *Student Teaching Grades: Assessment and Use*, SCHOOL AND SOCIETY 5 (October 1974); T. Quirk, *et al.*, A CRITICAL REVIEW OF RESEARCH RELATED TO THE NATIONAL TEACHER EXAMINATIONS 33 (1972) (Ex. PX21).

[116] *Id.*

[117] *Id.*

[118] ETS MANUAL at 13 (Ex. GM16).

their NTE scores and their scores or outcomes on each of the criteria are used. These data may be sent to ETS for processing by computer, and the ETS MANUAL contains extensive instructions in that regard.[119] The data processing involves the derivation of correlation coefficients that are an expression of the degree to which the NTE scores vary in the same manner as the criteria. For example, if there is a high correlation coefficient, that means that the persons who get NTE scores above the cut-off are also very likely to get good ratings on the criteria that measure teacher effectiveness. If the criteria actually do measure teacher effectiveness, then the NTE cut-off score has a degree of validity for use in selecting teachers.

A job analysis is not a required part of this process unless the investigator doing the study is unfamiliar with the job of teaching. Job analyses are typically done when an expert in testing and measurement is brought in to study a particular employment problem with which he has not had extensive experience in the past. A job analysis is simply a basic information-gathering step before expert psychometric analysis is applied. If the information already exists within the expert capabilities of the investigator, a job analysis is unnecessary. Further, the measure of the adequacy of the test in this type of use is whether it correlates with a proper criterion, not whether it is based on a job analysis.

Although plaintiffs expound at great length on this validation model, it is not at issue in this case. The defendants are responsible for certification decisions and uses of the NTE cut-off scores with respect to those certification decisions. Local school system officials make selection decisions and those decisions with respect to whom should be hired for a particular job are not at issue here.

4. *The Evidence Marshaled by Plaintiff to Challenge the Validity of the Examinations Is Incomplete and Inadequate*

The plaintiff urges that three studies supervised by professional educators provide an evidentiary basis upon which this court can find that the National Teacher Examinations have no validity even for the uses described by ETS as appropriate. However, each of these studies has such serious flaws that they cannot provide, individually or collectively, any basis for a finding of fact with respect to the validity of the NTE.

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[119] *Id.* at 18-38.

The first study cited by plaintiff was supervised by Dr. James N. Lewis of Sul Ross State College in Texas.[120] This study purportedly concludes that scores on the NTE do not correlate significantly with grades for student teaching as part of an academic curriculum. There are a number of serious deficiencies in Dr. Lewis' study not discussed by plaintiff. First, the study was very limited, involving only forty-five students. Over 12,000 students take the NTE each year in the four-state West South Central district that includes Texas.[121] Second, the study compared grades in student teaching with scores obtained on the NTE without demonstrating that student teaching grades are themselves predictors of effective teaching. As indicated above, student teaching grades have serious deficiencies that affect any meaningful reliance upon them for this purpose. Indeed the very limited range in student teaching grades, as contrasted with the very broad range of scores on the NTE, may alone account for the lack of correlation found in the Lewis study.

The plaintiff also points to a study by Dr. Jerry Hall of Wake Forest University that concluded there was no significant correlation between criteria of teacher effectiveness and NTE scores.[122] But there are significant problems with the Hall study that affect the force of the conclusion cited by plaintiff. Some of the most important design flaws are: (a) the evaluation instrument was newly developed for the purpose of this study and had never been validated or even field tested before it was used; (b) no reliability figure was given for the evaluation instrument and thus no judgment can be made that it provided a fair assessment of what it purported to measure; (c) each teacher was required to evaluate his own teaching thereby introducing an obvious bias in favor of the conclusion reached by Dr. Hall; (d) the evaluation instruments were sent to the subjects through the mail, effectively preventing any control over the accuracy of the observation; (e) the self-selection process, which reduced the number of subjects from 619 to 125, produced a very truncated and perhaps atypical

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[120] J. Lewis, THE RELATIONSHIP BETWEEN PERFORMANCE ON THE NATIONAL TEACHER EXAMINATION AND SUCCESS IN STUDENT TEACHING (1967) (Ex. NEAX 12). This report of the study is very brief, comprising only four pages. No data are given and none of the statistical processes are described.

[121] Teacher Programs Advisory Board document at 13 (NEADX19).

[122] Trial Brief of the United States at 43.

group of responses; and (f) of the 20 items included on the testing instrument, only six items were related to the domain measured by the National Teacher Examinations. Some of these inadequacies are recognized by the author of the study who notes:

> "It should be pointed out that this testing was in a highly artificial research setting and that the participants furnished anonymously both their own NTE scores and evaluations, with full knowledge of how the evaluations were to be used and with the knowledge that the NTE scores could not be checked." [123]

Finally, plaintiff refers to a study done by two officials of the North Carolina State Department of Public Instruction with the assistance of three ETS employees, known as the Connor-Davis-Burch study.[124] This study has even more serious defects than the Hall and Lewis studies. The study was intended to compare NTE scores with assessments of teacher performance, and assessments for the sole purpose of this study were sought from 100 principals. However, the instructions to the principals who were to provide assessments did not define excellence or teacher effectiveness in any way. Therefore, the element of personal bias cannot be removed and the different perceptions of the various principals with respect to the essential attributes of excellence make their judgments essentially non-comparable. A teacher rated outstanding by one principal using his own personal criteria which may emphasize neatness and rapport with fellow teachers over other elements, might be rated only modestly successful by another principal whose own personal criteria of excellence emphasize pupil residual gain from the teaching.

The authors did not intend this study as a measure of the validity of the NTE. They emphasize:

> "It should be stated that this study is limited to evidence that could be marshaled rather quickly and inexpensively. . . . [T]he main purpose has not been to prove or disprove the validity of using NTE scores for certification; rather the objective is to emphasize the need for more extensive and careful research

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[123] J. Hall, NATIONAL TEACHER EXAMINATIONS AND SELECTED CRITERIA OF TEACHER EFFECTIVENESS 4 (1969) (IUS No. 24).

[124] Trial Brief of the United States at 49. This study was not sponsored by ETS, and was not done according to a research design that complies with ETS standards. Deneen Deposition, Vol. I at 129-32.

into the basic question of certification standards and their measurement." [125]

Further, the plaintiff has put in the record only a part of this study, and only the part that could be favorable to its case. The study refers to a separate document that provides statistical analyses essential to judging the quality of the research design and the reliability of the conclusions reached.[126] That document was never produced and is not a part of the record. Without it, the study is of no value as evidence.

C. The Court Need Not Decide the Ancillary Issues Raised by Plaintiff

The issues of inherent test bias and appropriate validation methodology raised by plaintiff are entirely severable from the issues raised by the specific uses of the NTE by North Carolina. This Court should sever these issues for three important reasons.

First, decision of these ancillary issues is not a necessary prerequisite to the award of the relief sought by plaintiff:

(a) a declaration that Section 115-153 is unconstitutional and unenforceable;

(b) an injunction preventing defendants from enforcing the current minimum score requirements and the "non-standard" rating regulations; and

(c) an injunction requiring certification for those otherwise qualified persons who, in the past, have not been able to achieve the minimum score requirement.[127]

Each item of that relief can be granted by this Court without any finding of fact or conclusion of law with respect to the ancillary issues of test bias and validation methodology. North Carolina has conducted no validation of any sort and has no other basis upon which a rational relationship to a legitimate legislative purpose could be found by this Court. Without such a rational relationship, both the use of the NTE with experienced teachers and the separate use with prospective teachers must fall. All of the dec-

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[125] J. Burch, *et al.*, OUTSTANDING TEACHERS IN NORTH CAROLINA: PRINCIPALS' RATINGS AND NTE SCORES 3 (1970) (Ex. NEAX46).

[126] *Id.* at 8.

[127] Trial brief of the United States at 141-42. Plaintiff-Intervenors seek the same relief. Proposed Findings of Fact and Legal Argument at 66-67.

laratory and injunctive relief requested by plaintiff is thus available from a decision based on those limited grounds, and the facts that support such a decision are undisputed on the record. It is this kind of issue, the application of law to established facts, for which the mechanism of a three-judge court is particularly well suited.

Second, the findings of fact required to support a decision on these ancillary issues of test bias and validation methodology are disputed and without a firm grounding in the record. Plaintiff submits 14 paragraphs, and plaintiff-intervenors submit 20 paragraphs, of proposed findings of fact that are devoted to these issues.[128] However, as pointed out in Section III above, there is no agreement with respect to these facts and the record is not well-developed on any of these ancillary issues. The resolution of these fact questions would require close scrutiny of disputed evidence, a process in which the fact-finder could benefit greatly from oral testimony and effective cross-examination that are unavailable in this forum.

Third, plaintiff is seeking a declaration with respect to the constitutionality and legality of an act of a state legislature that requires the Court to interfere with the legislature's plan for dealing with matters of substantial concern to the state. In rendering its opinion, the Court should minimize this interference and should leave to the state the widest possible choice of options for certifying teachers. Possible uses of the NTE or other standardized tests and possible validation models suited to North Carolina's specific needs should not be foreclosed on the limited record before this Court.

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[128] *See* plaintiff's proposed findings of fact numbered B-2, C-6, C-8, C-12, C-15, D-1, D-2, D-3, D-4, D-5, D-6, D-7, D-8, D-12, and *see* plaintiff-intervenor's proposed findings of fact numbered 29, 36, 45, 46, 47, 52, 85, 86, 87, 100, 101, 103, 104, 105, 106, 107, 108, 111, 112, 113.

CONCLUSION

For the reasons stated above, the Court should make the necessary and limited findings of fact and should grant the declaratory and injunctive relief requested by plaintiff to eliminate the non-standard rating for experienced teachers and the 950 cut-off score requirement for prospective teachers without consideration of the ancillary issues raised by plaintiff.

Respectfully submitted,

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Dated: May 1, 1975

APPENDICES

APPENDIX A

Qualifications of Members of the Committees of Examiners for Area Examinations in Elementary Education, English Language and Literature, and Social Studies (1974)*

Members of the Education in the Elementary School Committee (1974)

Audrey Boykin has been general elementary supervisor for grades kindergarten through six for 18 years in the East Baton Rouge Parish school system, which includes many students who are members of minority groups. She has been an elementary school principal in the South and has taught at all education levels, including teaching experience at Grambling College. She is Vice-president of the Association of Elementary, Kindergarten and Nursery Educators, Secretary of the Louisiana Association of Supervisory and Curriculum Development, and Secretary of the Executive Council of the Louisiana Education Association.

Mary Durant has been a teacher at Boston State College, Boston, Massachusetts for many years. She teaches minority students in her classes and, as a supervisor of student teachers, has on many occasions been in classrooms and situations where many of the students and participants were minority group members.

Dr. Gerald Krockover has served as a consultant for the SRA Baltimore Model Pilot School Science Project, involving science education for inner city school students. He has also served as a consultant in science education for the Gary, Indiana school system. He has received several NSF grants to work with curriculum specialists, supervisors, and administrators of such school systems as Chicago, Los Angeles, San Francisco and Philadelphia. His publications include *Class Inclusion and Conservation of Weight: Implications for the Elementary School*, SCHOOL SERVICES AND MATH (April 1974); *Experiment Through Advertising*, SCIENCE AND CHILD (January 1973); and *Pollution Studies*, SCIENCE AND CHILD (January 1973). He is the author of a textbook on science education that will soon be published by Little, Brown and Company.

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* Appendices A, B, C and D were compiled primarily from standard reference sources, including WHO'S WHO IN EDUCATION, EDUCATION INDEX, READER'S GUIDE TO PERIODICAL LITERATURE, LEADERS IN EDUCATION, OUTSTANDING EDUCATORS OF AMERICA, DIRECTORY OF AMERICAN SCHOLARS, NATIONAL FACULTY DIRECTORY, BOOKS IN PRINT, AMERICAN PSYCHOLOGICAL ASSOCIATION DIRECTORY, AND SOCIAL SCIENCES AND HUMANITIES INDEX.

Dr. Joseph Payne has served as a Director of National Science Foundation Mathematics Institutes for elementary and junior high school teachers. He has been a Professor and coordinator of mathematics at the University of Michigan, where he taught and supervised minority group students. His participation in professional activities has included: editor, *Tips for Beginners*, THE MATHEMATICS TEACHER; Secretary, Vice-president and Chairman of the elementary mathematics section of the Central Association of Math and Science Teachers. He has served as a consultant on various projects for the Detroit and Flint school systems. His publications include: MATHEMATICS & THE NEEDS OF THE CHILD (1972); MATHEMATICS EDUCATION: INDEX AND BIBLIOGRAPHY (1962); and *Call for a Commission on Elementary School Mathematics*, ARITHMETIC TEACHER (March 1972).

Dr. Virginia Westerberg is on sabbatical in Europe this term, but as a Professor at the University of Colorado has taught and supervised prospective teachers, some of whom were minority group members. She has also had extensive teaching experience in the public school system at the elementary school level and has been a demonstration project teacher.

Members of the English Language and Literature Committee (1974)

Dr. Hans P. Guth received his Ph.D. degree from the University of Michigan and is now a Professor of English at California State College, San Jose, California. He is the author of WORDS AND IDEAS; ENGLISH TODAY AND TOMORROW; AMERICAN ENGLISH TODAY; and ENGLISH FOR A NEW GENERATION, all four of which are standard texts used in English methods courses; a number of composition handbooks; and *English as a Many-Splendored Thing*, ENGLISH JOURNAL (April 1972).

Dr. Richard Lloyd-Jones received his Ph.D. degree from the University of Iowa and is Professor of English and Director of Undergraduate Studies in English at the University of Iowa. He attended the Summer Institute for Teachers in Predominantly Black Colleges (1965), and is a member of the Commission for Composition, sponsored by the National Council of Teachers of English, and the Advisory Board for Achievement Awards in Writing. He is the author of RESEARCH IN WRITTEN COMPOSITION and *I Am Not You*, COLLEGE COMPOSITION AND COMMUNICATION (October 1973).

Leny Reed, who received his M.A. degree from the University of Denver in 1951, is the Supervisor of English of the Denver Public Schools. He is a member of the Commission on Curriculum sponsored by the National Council of Teachers of English; First President of the Denver Arts English Council; and Executive Secretary of the Colorado Language Arts Society. Mr. Reed has ten years experience as a classroom teacher and has taught in-service courses in minority literature for Denver teachers. Since 1968 he has served on the Planning Committee for Integration of the Denver Public Schools.

Dr. Virginia Redd received her Ph.D. degree from the University of Maryland and is currently the Associate Dean of Students and Director of the Learning Resources Program at the University of Maryland.

Dr. David Shores received his Ph.D. degree from Peabody College in Nashville and is Chairman of the English Department and Director of Graduate Studies in English at Old Dominion University, Norfolk, Virginia. He served as the Associate Director of the Summer Institute for College Teachers in Predominantly Black Colleges during the summers of 1973 and 1974; Regional Secretary of the American Dialect Association; and Editorial Associate of the Linguistic Atlas of the United States. His publications include: DESCRIPTIVE SYNTAX OF THE PETERBOROUGH CHRONICLE FROM 1122 TO 1154 (1971) and editor, CONTEMPORARY ENGLISH: CHANGE AND VARIATION (1972).

Members of the Social Studies Committee (1974)

Dr. James A. Banks received his Ph.D. degree from Michigan State University and is now an Associate Professor of Education at the University of Washington in Seattle. Dr. Banks has taught in the public schools of Joliet and Chicago, Illinois and is a member of the National Advisory Board, the ERIC Clearinghouse for Education and Social Science, the Social Science Education Consortium Publications Task Force, and the United States Office of Education Leadership Training Institute on Teacher Education. Dr. Banks is the author of MARCH TOWARD FREEDOM: A HISTORY OF BLACK AMERICANS; TEACHING THE BLACK EXPERIENCE: METHODS AND MATERIALS; TEACHING STRATEGIES FOR THE SOCIAL STUDIES: INQUIRY, VALUING AND DECISION-MAKING. His other publications include: *Curriculum Strategies for Black Liberation*, THE SCHOOL REVIEW (May 1973); *Evaluating and Selecting Ethnic Studies Materials*, EDUCATIONAL LEADERSHIP (April 1974); *Teaching for Ethnic Literacy: A*

Comparative Approach, SOCIAL EDUCATION (December 1973); *Teaching Strategies for Discussion of Justice in America: Fact or Fiction?* SOCIAL EDUCATION (November 1973); *Destruction of Black Schools: An American Tragedy*, EDUCATIONAL LEADERSHIP (December 1972). He coedited and contributed to TEACHING SOCIAL STUDIES: STRATEGIES OF TEACHING TO CULTURALLY DIFFERENT CHILDREN; TEACHING THE LANGUAGE ARTS TO CULTURALLY DIFFERENT CHILDREN; and BLACK SELF-CONCEPT: IMPLICATIONS FOR EDUCATION AND SOCIAL SCIENCE. He contributed to the 1972 NCSS YEARBOOK; the 1974 ASCD YEARBOOK; RACIAL CRISIS IN AMERICAN EDUCATION; BLACK IMAGES EDUCATION COPES WITH COLOR; and TEACHING SOCIAL STUDIES IN THE URBAN CLASSROOM.

Dr. Eugene Levy received his Ph.D. degree in American Studies from Yale in 1970. He is currently an Associate Professor of History at Carnegie-Mellon University, where he teaches Afro-American history, ethnic American history and crime in American history. His publications include: JAMES WELDON JOHNSON: BLACK LEADER, BLACK VOICE (1973); *Ragtime and Race Pride*, J. POPULAR CULTURE (Winter 1968); and editor, BACON'S HISTORY OF HENRY THE SEVENTH (1972).

Dr. Shirley Ostholm received her Ph.D. degree in American and Urban Politics from Columbia University in 1973, and is a Professor of Political Science at New York University. She has taught at the elementary and high school levels and served as social studies consultant for the Archdiocese of Detroit from 1965 until 1970. She holds membership in the Academy of Political Science, serves on the Women's Caucus for the American Political Science Association and is the Editor of *Lifestyles*, a column published in the national newsletter of the Women's Caucus of the American Political Science Association.

Dr. Phillip Saunders received his Ph.D. degree in 1964 from the Massachusetts Institute of Technology. He is currently a Professor of Economics at Indiana University, after having been an Assistant Professor of Economics at Carnegie-Mellon University (1962-1970). His publications include: *Student Learning and Instructors Ratings*, ECONOMIC EDUCATION (1972); *The Lasting Effects of Elementary Economics Courses*, AMERICAN ECONOMICS REVIEW (1971); and THE WORLD OF ECONOMICS (1969).

APPENDIX B

Qualifications of Members of the Teacher Programs Advisory Board (1974)

Dr. Elizabeth Cohen is a Professor of Education and Sociology at Stanford University, having received her Ph.D. degree in Sociology from Harvard. Her publications include: author, A NEW APPROACH TO APPLIED RESEARCH: RACE AND EDUCATION (1970); THE IMPACT OF OPEN SPACE SCHOOLS ON TEACHER INFLUENCE AND AUTONOMY; *Open-Space Schools: The Opportunity to Become Ambitious,* SOCIOLOGY OF EDUCATION (Spring 1973); *Sociology and the Classroom: Setting the Conditions for Teacher Student Interaction,* BIB. R. EDUC. RES. (Fall 1972); *Interracial Interaction Disability: A Problem for Integrated Education,* URBAN EDUCATION (January, 1971).

Dr. Joseph Cronin received his Ed.D. degree from Stanford University in 1965 and is now the Secretary of Educational Affairs of the Massachusetts State Department of Education. He has served on the Massachusetts State Task Force on Racial Imbalance (1966) and the Massachusetts Governor's Task Force on Education (1968-69). Dr. Cronin's publications include: author, THE CONTROL OF URBAN SCHOOLS: PERSPECTIVE ON THE POWER OF EDUCATIONAL REFORMERS (1973); ORGANIZING AN URBAN SCHOOL SYSTEM FOR DIVERSITY (1973); THE URBAN SCHOOL BOARD (1971); SCHOOL BOARD—TEACHER NEGOTIATIONS (1971); *The Impact of Teacher Negotiations on School Administration,* NEW ENG. ASSN. J. (Summer 1968); *One School Board's Response to Community Demands,* TIP (October 1969); co-author, Chap. in: THE THEORY AND PRACTICE OF SCHOOL FINANCE (1968) and PRINCIPALS UNDER PRESSURE (1969).

Dr. Roy A. Edelfelt received his Ed.D. degree from Teachers College, Columbia University and is a Professional Associate, National Education Association, Washington, D.C. Dr. Edelfelt's publications include: editor, THE ROLE OF THE STATE EDUCATIONAL AGENCY IN THE DEVELOPMENT OF INNOVATIVE PROGRAMS IN TEACHING (1969); author, *Differentiated Staffing: Where Are We Now?* NAT. ED. PRIN. (January 1972); *Reform of Education and Teacher Education: A Complex Task,* BIB. J. TEACHER EDUCATION (Summer 1972); and *Quality Education: Whose Responsibility,* EDUC. HORIZON (Summer 1971).

Dr. George Elford received his Ed.D. degree from Indiana University in 1967, has served as Director of Research, National Catho-

lic Educational Association, Washington, D.C., and was visiting Associate Professor, School of Education, Catholic University of America (1971-73). Dr. Elford's publications include: author, *Public and Private School Cooperation: A Look at the Future*, UNIVERSITY COUNCIL ON EDUCATIONAL ADMINISTRATION (1973); *The Legal Incorporation of Catholic Schools—A Speculative Inquiry*, ISSUES OF AID TO NON-PUBLIC SCHOOLS (1971); and fourteen articles in national periodicals such as AMERICA (5) and COMMONWEALTH (2), including subjects on the voucher plan debate, planning issues, current educational trends, organizational conflicts, budgeting and financing, innovation in education, and educational philosophy.

Dr. Robin H. Farquhar received his Ph.D. degree in Educational Administration from the University of Chicago in 1967 and is Assistant Director of the Ontario Institute for Studies in Education. Dr. Farquhar has served as Assistant Professor of Education, Ohio State University (1966); Deputy Director, University Council on Educational Administration (1969); Consultant, United States Office of Education (1966-67). His publications include: author, *The Two Faces of Educational Evaluation*, EDUC. CON. (Summer 1972); *The Public School Administrator Views the Catholic School—or Does He?* EDUC. ADMIN. QUART. (1968); IMPROVING THE PREPARATION OF EDUCATIONAL LEADERS, PLANNING AND CHANGING (1970); THE HUMANITIES IN PREPARING EDUCATIONAL ADMINISTRATORS (1970); co-author, *New Developments in the Preparation of Educational Leaders*, PHI DELTA KAPPAN (Summer 1972); PREPARING EDUCATIONAL LEADERS FOR THE '70's (1970); co-editor, EDUCATIONAL ADMINISTRATION: SOCIAL SCIENCES PROSPECTIVES (1971).

Robert O. Greer is Assistant Superintendent of the Ohio State Department of Education and has authored *Moral Imperative: Integrated Education in the Seventies*, NORTH CENTRAL ASSN. Q. (Winter 1973).

Dr. Helen W. Hartle is Director of the Interstate Reciprocity Compact, New York State Education Department and has published *Mobility of Teachers Eased by Compact*, COMPACT (May 1973).

Dr. William Andrew Hunter received his Ph.D. degree from Iowa State University in 1952 and now serves as Dean of the School of Education, Tuskegee Institute. His professional associations include: Member, White House Conference on Higher Education; American Association of School Administrators; American Association of Curriculum Developers. Dr. Hunter is the author of *Cultural Pluralism:*

The Whole Is Greater Than the Sum of Its Parts, J. TEACHER EDUC. (Winter 1973); *Redefining and Realigning Education as a Profession*, AMERICAN ASSOCIATION COLLEGE TEACHER EDUCATION YEARBOOK (1973).

Dr. Bruce R. Joyce received his Ed.D. degree from Wayne State University in 1960 and is Professor of Education, Teacher's College, Columbia University. Dr. Joyce has published widely including *Strategies for Social Science Education*, SCI. RES. ASSOC. (1970); ALTERNATIVE MODELS FOR ELEMENTARY EDUCATION (1969); *Curriculum Worker of the Future*, BIB. NATIONAL SOCIAL STUDIES YEARBOOK (1971); *Training of Educators: A Structure for Pluralism*, BIB. TEACH. COL. REC. (1972); *Social Action for the Primary Schools*, CHILD ED. (Fall 1970); ALTERNATIVE MODELS OF ELEMENTARY EDUCATION (1969); *New Strategies for Social Education*, SCI. RES. (1972); TEACHER AND HIS STAFF: MAN, MEDIA AND MACHINES (1967); *Basic Teaching Skills*, SCI. RES. (1972); MODELS OF TEACHING (1972); *Student Teacher as an Institution Builder*, J. TEACH. EDUC. (Fall 1972).

Dr. David R. Krathwohl received his Ph.D. degree from the University of Chicago in 1953 and is Dean of the School of Education at Syracuse University. Dr. Krathwohl has served as editor, REV. EDUC. RES. (1960-62); Chairman, Board of Trustees, Eastern Regional Institute of Education. He is the author of *Hopes for the National Institute of Education*, PHI DELTA KAPPAN (June 1971); *What Is Education?* PHI DELTA KAPPAN (June 1971); *What Is Educational Research?* EDUC. TEACH. (April 1972); TAXONOMY OF EDUCATIONAL OBJECTIVES, THE CLASSIFICATION OF EDUCATIONAL GOALS (1965).

Hernan LaFontaine received his M.A. degree from Fordham University and holds the position of Bilingual Administrator with the New York City Board of Education.

Charles F. Leyba is an Associate Professor at California State College, Los Angeles, and has been Director of Project MAESTO. He is the author of *Cultural Identity: Problems and Dilemmas*, J. TEACH. EDUC. (Winter 1973).

Dr. Kenneth E. McIntyre is Professor of Educational Administration at University of Texas in Austin, Texas. Dr. McIntyre's publications include: *Selection and On-The-Job Training of School Principals*, U. OF TEX. PR. (1960); *How to Interview a Prospective Teacher*, NATIONAL ELEMENTARY PRINCIPAL (October 1971).

Rachel R. Noel is Chairman of the Afro-American Studies Department at Metropolitan State College in Denver and is a Member of the Denver Board of Education.

Dr. Edward C. Pomeroy received his Ed.D. degree from Columbia University in 1949 and is the Executive Director of the American Association of Colleges for Teacher Education in Washington, D.C. Dr. Pomeroy has published *Beyond the Upheaval, 13th Charles W. Hunt Lecture*, BIB. AM. ASSOC. COL. TEACH. YEARBOOK (1972); *Roles and Responsibilities*, AM. ASSOC. COL. TEACH. YEARBOOK (1970).

David Selden received his M.A. degree from Wayne State University in 1940 and is the President of the American Federation of Teachers in Washington, D.C. His professional activities include Organizer, Am. Fed. Teachers (1948-1953); White House Conference on Education (1965); Urban Task Force on Education (1969). He is the author of *Needed: More Teacher Strikes*, SATURDAY REVIEW (1965); *The Teacher Dropout Problem*, PHI DELTA KAPPAN (1968); *Decentralization: A Moderate Approach*, TEACHERS COL. REV. (1969); *Money Controls Our Schools*, COMPACT (December 1972); *Vouchers Unvouchsafed*, EDUC. FORUM (November 1972); *Productivity, Yes. Accountability, No.*, NATIONS SCH. (May 1972); *Vouchers, Solution or Sop?*, TEACH. COL. REC. (1971); *Why Some Learn and Others Don't*, CHANGE ED. (Spring 1970).

Dr. Deborah P. Wolf is Professor of Education at Queens College in New York, having received her Ed.D. degree from Columbia University. Dr. Wolf was a Member of the New Jersey State Board of Education (1963-1968); a Consultant to the National Science Foundation; and a participant in the National Leadership Training Institute, United States Office of Education. Dr. Wolf's extensive publications include: INTERIM REPORT OF EDUCATION AND CITIZENSHIP IN THE PUBLIC SCHOOL SYSTEM OF PUERTO RICO (1962); PUBLICATIONS WITH A MAJOR EMPHASIS UPON EDUCATION—A SELECTED BIBLIOGRAPHY (1962); EDUCATION GOALS FOR 1965 (1965); *Needed: Training for Teachers of the Underprivileged*, QUART. REV. (April 1969); *The Origin of Prejudice*, QUART. REV. (April 1969); *New Criteria and New Perspectives for Selection of the Marginally Qualified Disadvantaged Student*, QUART. REV. (July 1969); *Preservice Science Education*, SCIENCE AND CHILD (October 1970); *Trends in Science Education*, SCI. ED. (January 1970); *Valuing the Dignity of Black Children: A Black Teacher Speaks*, CHILD. ED. (April 1970); *National Societal Forces Affecting Schools in the '70's*, AMERICAN COUNCIL ON INDUSTRIAL ARTS TEACHER EDUCATION YEARBOOK (1973).

APPENDIX C

Qualifications of Senior Examiners in the Test Development Group, Higher Education and Career Programs Division, ETS

Dr. Frank J. Fornoff received his Ph.D. degree from Ohio State University and has had extensive experience as an Associate Professor of Chemistry at Lehigh University and Kansas State College from 1945 until 1956. Since 1956, when he came to ETS, he has lectured in Chemistry at Rutgers University. Dr. Fornoff belongs to numerous professional associations, including the American Association for Advancement of Science, American Society for Engineering Education, American Chemical Society, National Science Teachers Association, National Council of Measurements in Education and New Jersey Academy of Science. His publications include: *Developing the New Physics Test,* COLLEGE BOARD REVIEW (1962); *Objective Tests—All Bad?* PHYSICS TODAY (1962); *GRE Advanced Engineering Test,* ENGINEERING EDUCATION (April, 1969); A STUDY OF THE TEACHING OF CHEMISTRY IN SECONDARY SCHOOLS (1969); and *A Survey of Teaching of Chemistry in Secondary Schools,* SCHOOL AND SOCIETY (April 1970).

Dr. Betty J. Humphry received her Ph.D. degree in Educational Psychology from the University of Iowa in 1954. Prior to coming to ETS in 1966, Dr. Humphry was Director, Reading Clinic, Arizona State University, Tempe, Arizona (1954-55); Assistant Professor at Arizona State University (1954-55); and textbook editor at Ginn & Company (1955-60). She is a member of the American Educational Research Association, Association for Supervision and Curriculum Development, National Council on Measurement in Education, Pi Lambda Theta (national honorary association for women in education), and Sigma Alpha Iota (national honorary association for women in music). Her numerous publications and contributions to professional journals include: Contributor to Iowa Basic Skills Test (1952); *A Survey of Professional Education Offerings in NCATE-Accredited Institutions,* JOURNAL OF TEACHER EDUCATION (December 1963); contributor to *Research Clues,* NEA JOURNAL (1965-67); A REPORT CONCERNING THE NATIONAL TEACHER EXAMINATIONS (1966); contributor to Pi Lambda Theta's published list of OUTSTANDING BOOKS IN EDUCATION (1966-68); author of preface to THE EVALUATION OF TEACHING (1967); *New Educational Psychology Test Now Available,* EDUCATIONAL PSYCHOLOGIST (1969); editor,

EDUCATIONAL BOOK LIST 1968-69 (1970); Reviewer of research article on verbal overload for AERA Journal (1972); DEVELOPMENT AND ANALYSIS OF A TAPED AND WRITTEN TEST FOR GUIDANCE COUNSELORS: A PILOT STUDY (1973); and editor of *Educational Horizons*, OFFICIAL JOURNAL OF PI LAMBDA THETA (Summer 1974).

Raymond E. Thompson received his Ed.M. degree in Science Education from Harvard University in 1960 and his M.S. degree in Statistics from Rutgers University in 1969. Prior to arriving at ETS in 1960, Mr. Thompson was a high school science teacher in Iowa. He is a member of the following professional organizations: National Science Teachers Association, American Association of Physics Teachers, National Council on Measurement in Education, American Educational Research Association, and American Society for Engineering Education. His numerous publications in the fields of science and testing include: *Developing Tests for the New Secondary-School Science Curricula*, FLORIDA ASSOCIATION OF SCIENCE TEACHERS JOURNAL (April-May 1963); DEVELOPING A COLLEGIATE PHYSICAL SCIENCE TEST (1963); A STUDY OF THE COMPARATIVE VALIDITIES OF THE ESSAY AND OBJECTIVE SECTIONS OF THE COLLEGE ENTRANCE EXAMINATION BOARD ADVANCED PLACEMENT EXAMINATION IN PHYSICS (1965); INTRODUCTORY PHYSICAL SCIENCE ACHIEVEMENT TESTS (1966); *The College Board Physics Achievement Test*, THE PHYSICS TEACHER (March 1969); *A Survey of the Teaching of Physics in Secondary Schools*, SCHOOL AND SOCIETY (April 1970); and *The Advanced Placement Program in Physics*, THE PHYSICS TEACHER (October 1972).

Irene Williams received her M.A. degree in Mathematics from the University of North Carolina in 1956 and undertook additional graduate studies in Mathematics at that school from 1958-60. Prior to coming to ETS in 1964, Ms. Williams was an Associate Professor in Mathematics at Converse College, Spartanburg, South Carolina, where she developed a mathematics program for a Master of Arts in Teaching. Her professional associations include: the National Council of Teachers of Mathematics, Mathematical Association of America, American Mathematical Society, and American Association of University Professors. She has published extensively in the fields of mathematics and teaching, including the following works: A SURVEY OF THE TEACHING OF MATHEMATICS IN SECONDARY

SCHOOLS (1969); *A Survey of the Teaching of Mathematics in Secondary Schools,* SCHOOL AND SOCIETY (October 1970); *A Progress Report on the Implementation of the Recommendations of the Commission on Mathematics,* THE MATHEMATICS TEACHER (October 1970); *The 1969 Advanced Placement Examinations in Mathematics —Complete and "Unexpurgated,"* THE MATHEMATICS TEACHER (October 1971); A COMPARISON OF INTERVIEW AND NORMATIVE ANALYSIS OF MATHEMATICS QUESTIONS (1971); PERFORMANCE OF SSMCIS-TRAINED STUDENTS ON COLLEGE BOARD MATHEMATICS EXAMINATIONS (1973); *Multiple Choice Mathematics Questions—How Students Attempt to Solve Them,* THE MATHEMATICS TEACHER (1974); and COLLEGE MATHEMATICS COURSES THROUGH CALCULUS: A SURVEY (1974).

Dr. William Kastrinos received his Ph.D. degree in Biology Education from Purdue University in 1969, and has been at ETS since 1964. He is a member of the Central Association of Math and Science Teachers. Dr. Kastrinos has published numerous articles in the fields of science, education and testing, including *A Survey of First Year Biology Courses,* J. AM. BIOLOGY TEACHER (1974); GRADING OF ADVANCED PLACEMENT BIOLOGY PRETEST (1974); and *Course Background of Students Who Take the College Board Examination in Biology,* BIOLOGICAL SCIENCE CURRICULUM STUDY (September 1971).

APPENDIX D

Qualifications of Members of the Minority Advisory Committee (May 22-24, 1969)

Anne Borders-Patterson has worked with the Regional Educational Laboratory for the Carolinas and Virginia, centered in Durham, North Carolina, and has authored *Black Students in Predominately White North Carolina Colleges and Universities: Research Report No. 2*, COLLEGE BOARD RESEARCH REPORT SERVICE (1973).

Finley Campbell is an Instructor in English at Wabash College, Crawfordsville, Indiana.

William Cook is an educator in the English Department at Princeton High School, Princeton, New Jersey.

Professor Henry N. Drewry received his B.A. degree from Talladega College in 1948 and his M.A. degree from Columbia University in 1949. He became a full Professor of History at Princeton University in 1969 where he is currently the Director of Teacher Preparation and Placement. His prior teaching experience includes teaching history at the Agricultural and Techinal College of North Carolina (1949-51) and at Princeton High School until 1960, when he became the Chairman of the Social Studies Department of that school (1960-68). Professor Drewry has also served as a visiting lecturer at Princeton University (1964-68). His numerous distinctions include being named a John Jay Fellow at Yale (1964-68) and earning the Distinguished Secondary School Teachers Award from Harvard University (1964). He is a member of the American Historical Society, the Organization of American History, the National Council on Social Studies, the NEA, and is on the Board of Directors of the New Jersey Council on Social Studies. His publications include: *Rationalizing Slavery Produced Racism*, PRINCETON QUARTERLY (1969); AMERICA: A MODERN HISTORY OF THE UNITED STATES (1970); and AFRO-AMERICAN HISTORY, PAST TO PRESENT (1971).

David Clyde Driskell is a noted artist who has been Chairman of the Art Department at Fisk University since 1966. He received his B.A. degree from Howard University in 1955, having been awarded the distinction of Scholastic Scholar. Mr. Driskell received his M.F.A. degree, as a Danforth Foundation grantee, from the Catholic University of America in 1962, and studied at The Hague in 1964. His teaching experience is extensive, including Associate Professor of

Art at Talladega College (1955-62); Chairman of the Art Department at Howard University (1963-64); and visiting Professor at the University of Nigeria (1970). His art exhibitions have been numerous, including showings at the Rhodes National Gallery (Salisbury, Rhodesia 1957); the Smithsonian Institution (1962); The White House (1966); the University of California at Los Angeles (1967); Oakland (California) Museum (1967); Norfolk Museum (1969); and more recently, the Corcoran Gallery. His works are included in the permanent collections of Howard University, the Corcoran Gallery, Barnett Aden Gallery, and the Smithsonian Institution. Mr. Driskell is co-author of BLACK DIMENSIONS IN CONTEMPORARY AMERICAN ART.

Clarence Augustus Faulcon is a member of the Music Department of Morgan State College, Baltimore. He received his B.A. degree in 1950 and his M.S. degree in 1952 from the University of Pennsylvania. He gave his dissertation at the Philadelphia Conservatory of Music and received a certificate of Distinguished Citizenship from the State of Maryland in 1962. His appointments include: Consultant for the Junior College Book List (1967); Consultant to Choice Magazine; Member of the Board of Directors, Syracuse Friends of Chamber Music; Chairman, Curriculum and Instruction Committee, Cazenovia College; Member, Junior College Steering Committee of New York; State School of Music Association; Musicology Society; American Junior College Association; Music Educators National Conference; and the Pennsylvania Historical Society.

Dr. DeField T. Holmes is the Chairman of the Department of Biology at Central State University in Wilberforce, Ohio.

Lloyd McNeil is a member of the faculty of the College of Fine Arts at Howard University, Washington, D.C.

James E. Simms has been a member of the Commission on Human Relations, Pittsburgh, Pennsylvania.

Professor Clarence Francis Stephens is Chairman of the Mathematics Department of the State University of New York (Potts-dam), a position he has held since 1969. He received his B.S. degree from Johnson C. Smith University in 1938, and both his M.S. (1939) and Ph.D. degrees (1943) from the University of Michigan. His teaching experience has been extensive and diverse, including teaching at Prairie View A&M College (1940-42), and the U.S. Navy (1942-43). He has been a visiting lecturer for the Mathematics

Association of America, a Consultant to the National Science Foundation and the Middle States Association. Dr. Stephens was a Ford Fellow (1953-54), and participated at the Institute for Advanced Study at Princeton. His professional associations include: the Committee of Math Examiners of the College Entrance Examination Board; the American Mathematics Society; the Mathematics Association of America; the American Association of University Professors; and Pi Mu Epsilon.

Dr. Ercell I. Watson is currently the Dean of Education and Community Services at Monclair State College in New Jersey, and has served as the Superintendent of Schools in Trenton, New Jersey.